Information Services Industry Directions

Executive Presentation

YWQAD
1990

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Information Services Industry Directions

Executive Presentation

JIPDEC

June 13, 1990

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1280 Villa Street, Mountain View, California 94041-1194

(415) 961-3300

JIPDEC Presentation Outline

- Introduction
- Information systems—trends and issues
- Information ***services***— trends and issues
- Information services markets
- Major trends for the decade
- Conclusions

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Notes

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Market Research and Consultancy

Information Services Industry

15 Years in Business

100 Employees

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Notes

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California, New York, Washington D.C.,
London, Paris, Tokyo

Primary Research Emphasis

Senior Executives Experienced in
Information Services

Forecast from Comprehensive Data Base

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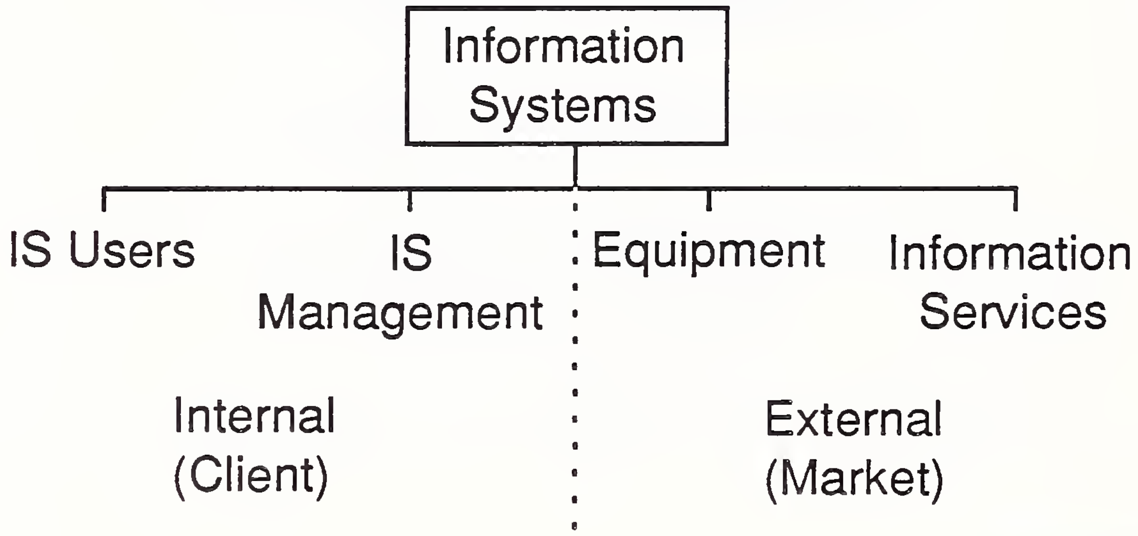
Notes

MPRE90-2b

Elements of Information Systems



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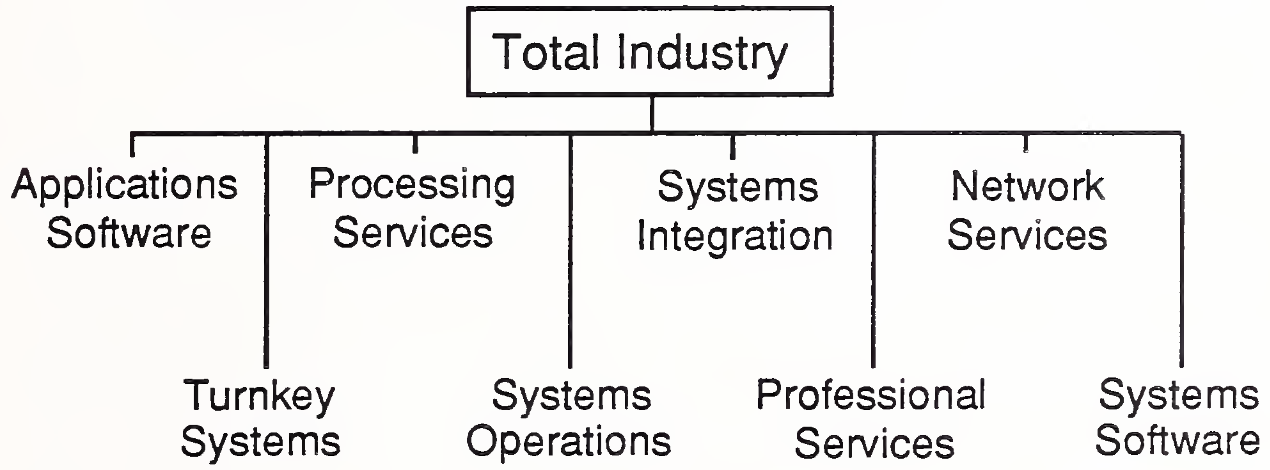
Information Services Industry Structure



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Information Systems

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Notes

Information Systems Driving Forces

1. Bottom line return
2. Rapid response and deployment (Pace)
3. Expanding wealth of technology
4. International competition (Globalization)
5. Unstable organizational environments (Pace)
6. Integration

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Notes

Ranking of Impact of New Technologies

1. Image processing
2. Voice recognition
3. Natural language processing
4. Self-teaching expert systems

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Notes

Ranking of Key Technology Trends

1. Integrated data bases (relational)
2. Platform independence/systems connectivity
3. CASE technologies
4. Expert systems
5. On-line transaction processing capabilities

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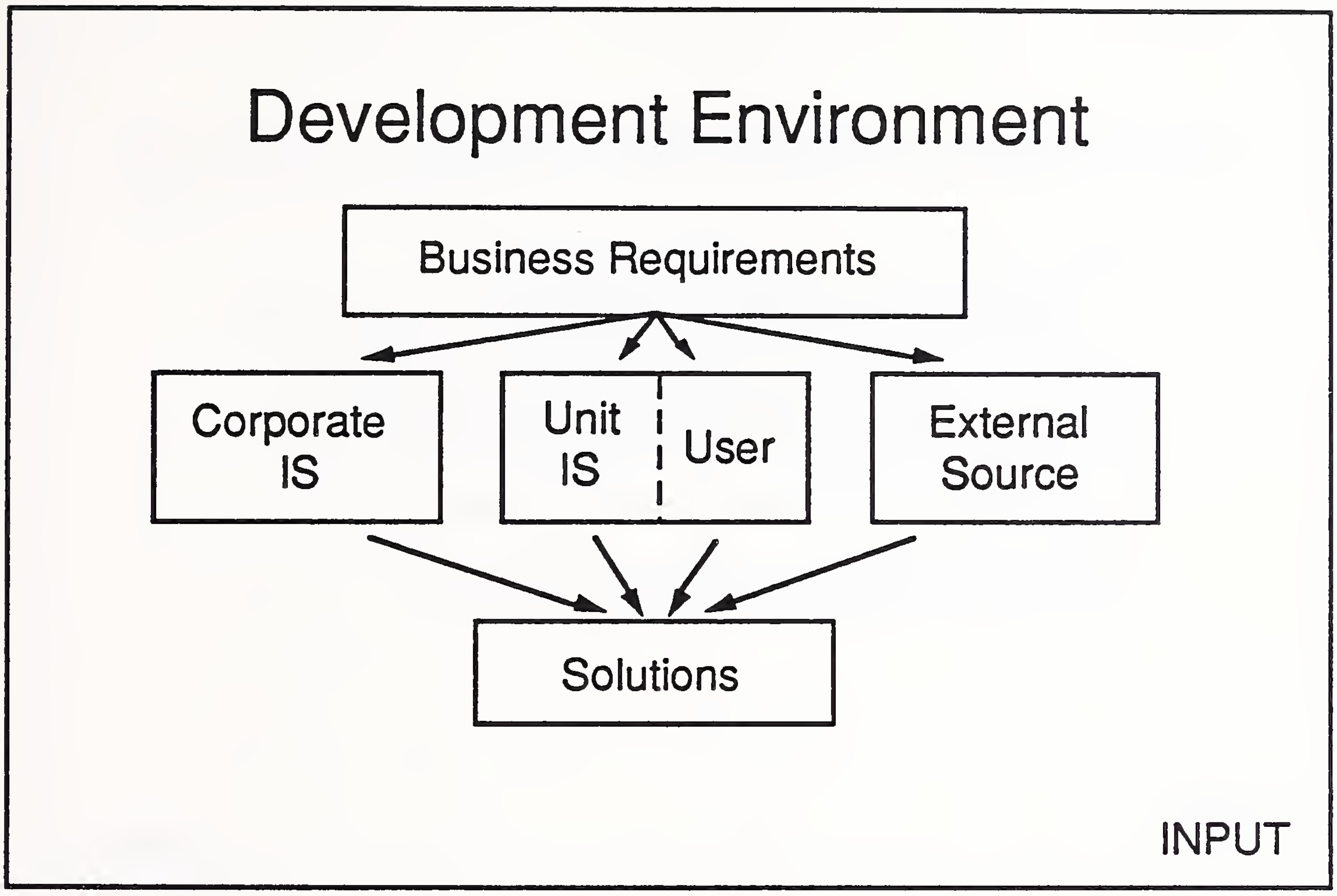
Notes

MPRE90-11



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MPRE90-15

Information Systems—Major Issues

- Rising management expectations
- Demands for increasingly complex solutions
- Managing the technology investment
- Integration of data/technology/applications
- Delivery of "mission-critical" systems

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Information Services Industry Trends

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Key Trends for the 1990s

- Products & services markets blurring
- Changing market structure
- ~~Internationalization~~ Globalization
- Standards
- Vendor consolidation

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Notes

Globalization

A Dominant Trend in the '90s

- Collapsing market barriers
  - Europe (East and West)
  - North America
- Growing market interest/participation
  - Pacific Rim
- Globalization of buyer requirements

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Counter-Trends to Globalization

- Time required to build relationships
- Longer lead time to profits
- Language barriers
  - Documentation
- Cultural "non-fits"
- Preference for local products and services
- Focus on narrow, niche markets
- National restrictions

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Notes

MPRE90-41ab

Standards

- *Driven by:*
  - Globalization
  - Buyer's integration requirements
  - Large providers/coalitions
- *Focused on:*
  - Technical interface
  - Applications interface
  - Human interface HUMATICS™

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Notes

Standards Are Evolving
Long-Range Implications

- More comprehensive global networks of diverse computers
- Graphics-based user interface
- Fewer hardware manufacturers

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Notes

MPRE90-43a

Standards Are Evolving
Long-Range Implications

- Diminishing importance of proprietary operating systems
- Systems integration a key to success
- Ease of program customization

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Notes

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Standards Inhibitors

- Application interface confusion
  - RDBMS vendors
  - Computer vendors
- Enterprise architecture competition
  - SAA (IBM)
  - NAS (DEC)
  - New Wave (HP)
  - Other independents

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Notes

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Market Forecasts 1989-1994

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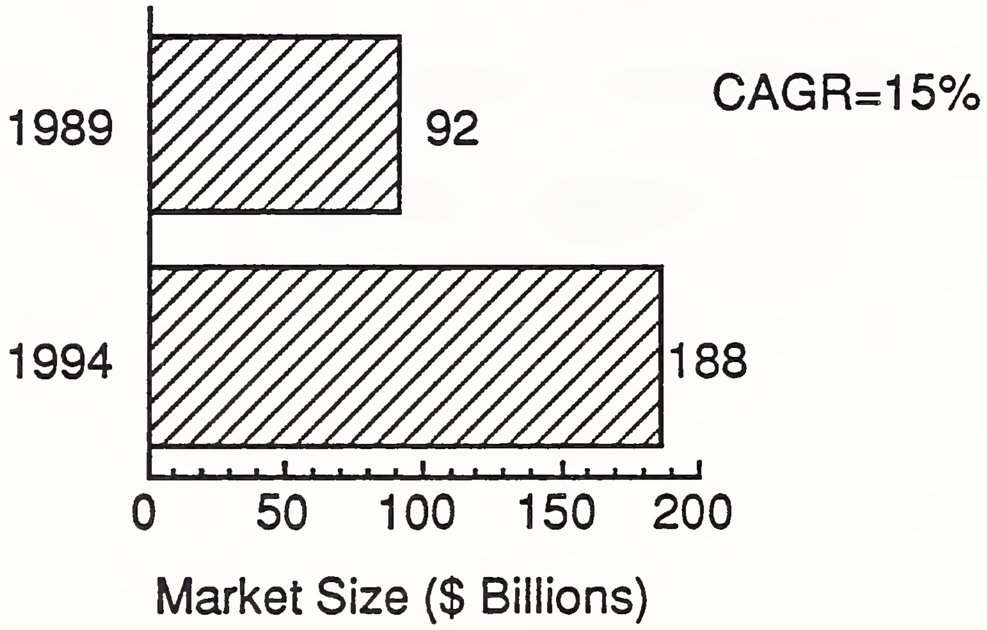
SCON-DRW2-6

U.S. Information Services Market
1989-1994



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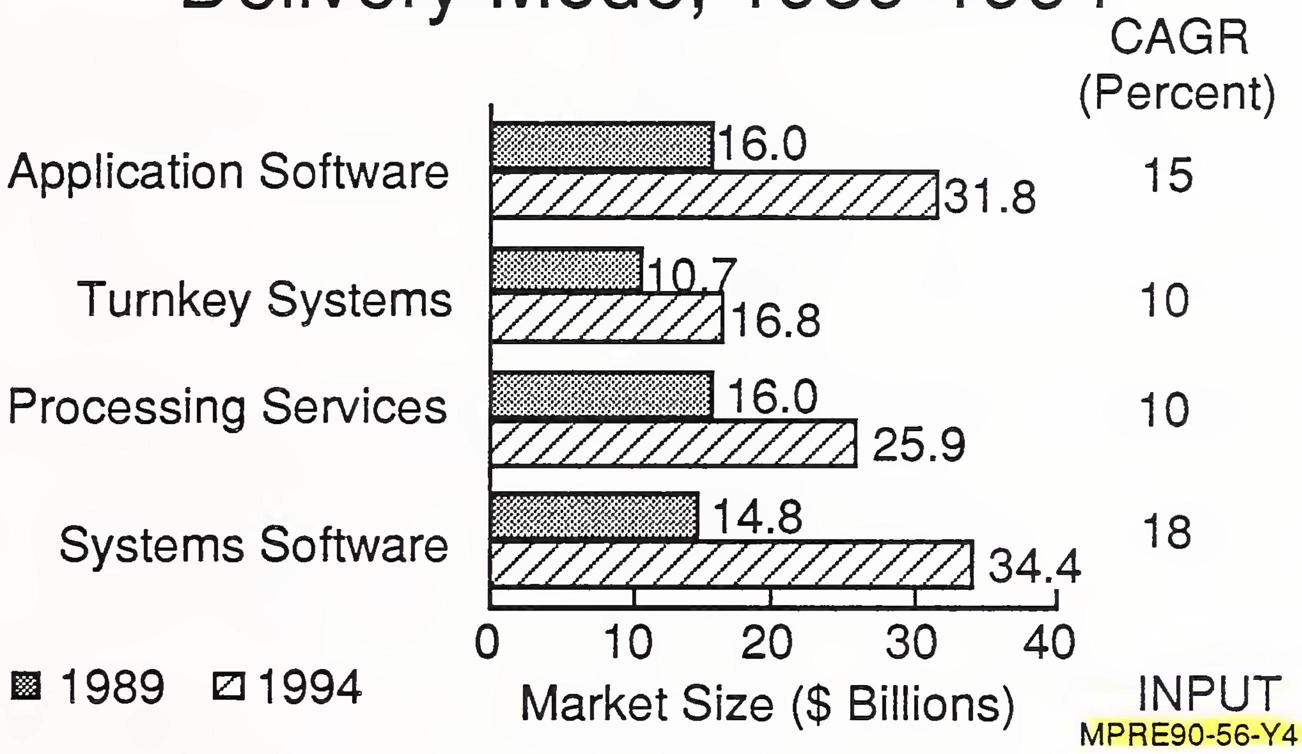
MPRE90-55

U.S. Information Services Market by Delivery Mode, 1989-1994



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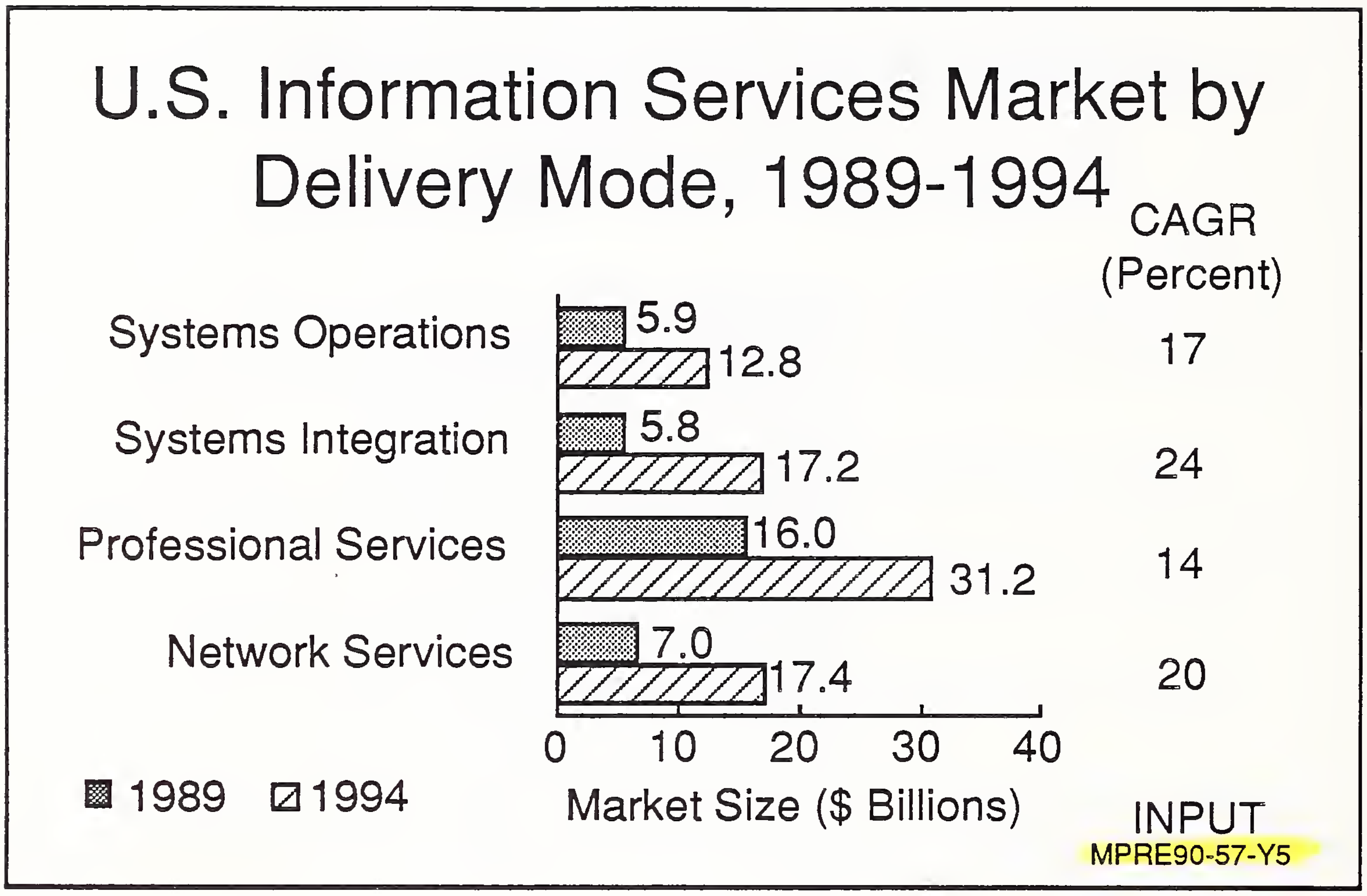
U.S. Information Services Market by Delivery Mode, 1989-1994
CAGR (Percent)
Systems Operations
5.9
12.8
17
Systems Integration
5.8
17.2
24
Professional Services
16.0
31.2
14
Network Services
7.0
17.4
20
0
10
20
30
40
Market Size ($ Billions)
1989
1994
INPUT
MPRE90-57-Y5

Notes

Selected Leading Information Services Vendors

Vendor	1988 U.S. Revenues ($ Billions)	Market Share (Percent)
IBM	4.9	6
ADP	1.5	2
EDS	1.4	2
Computer Sciences	1.2	1
Digital Equipment	1.2	1

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Notes

MPRE90-58a

Selected Leading Information Services Vendors

Vendor	1988 U.S. Revenues ($ Billions)	Market Share (Percent)
Unisys	0.9	1
Control Data	0.8	1
McDonnell Douglas	0.8	1
Andersen Consulting	0.7	1
Equifax	0.7	1

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Notes

MPRE90-58b

Selected Leading Information Services Vendors

Vendor	1988 U.S. Revenues ($ Billions)	Market Share (Percent)
Computer Associates	0.6	1
Dow Jones News/Retrieval	0.6	1
TRW	0.5	1

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Notes

MPRE90-58c

Software Products

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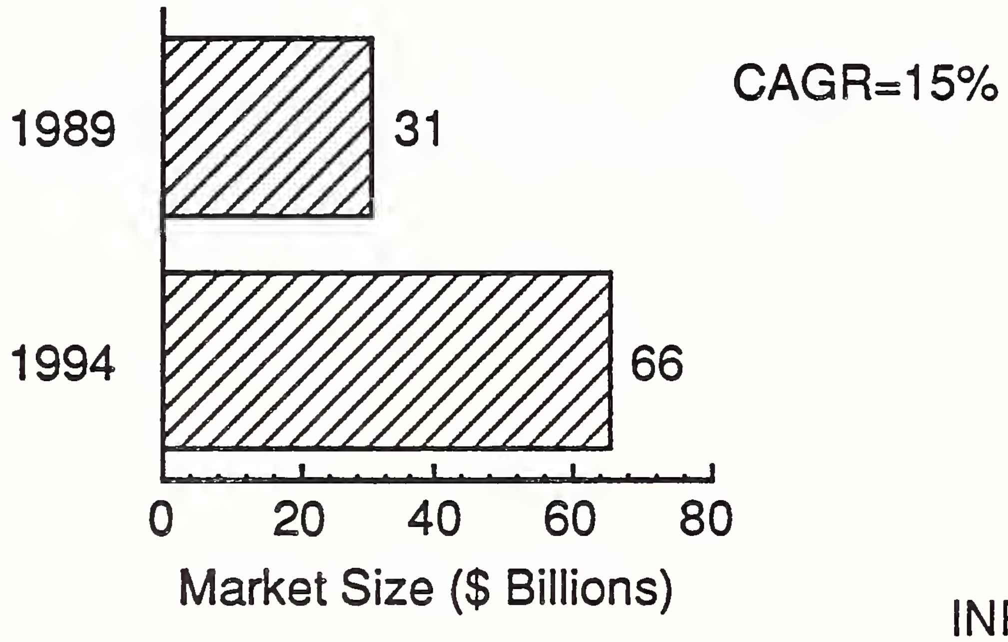
Notes

U.S. Software Products Market
1989-1994



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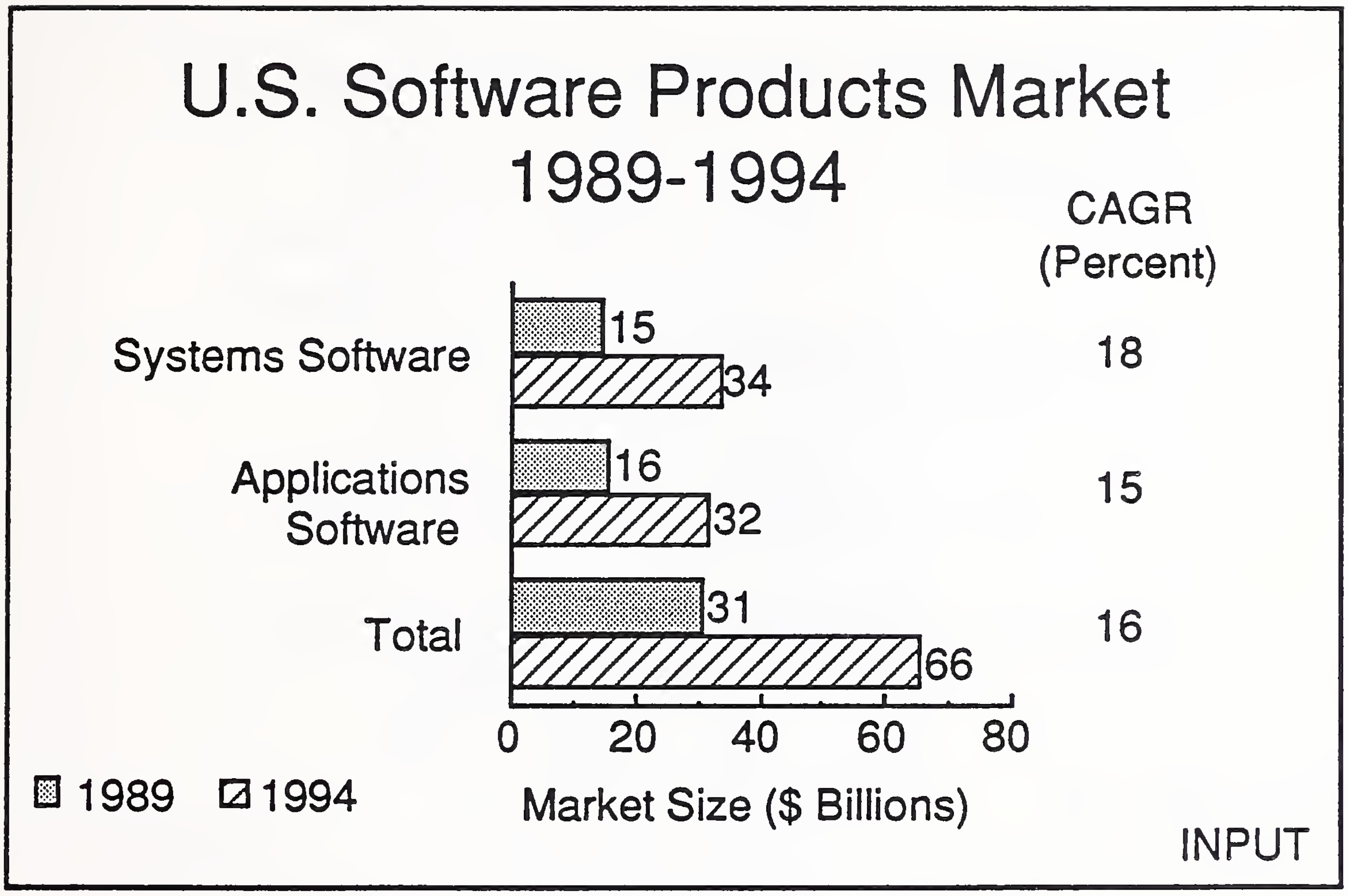
MPRE90-64a



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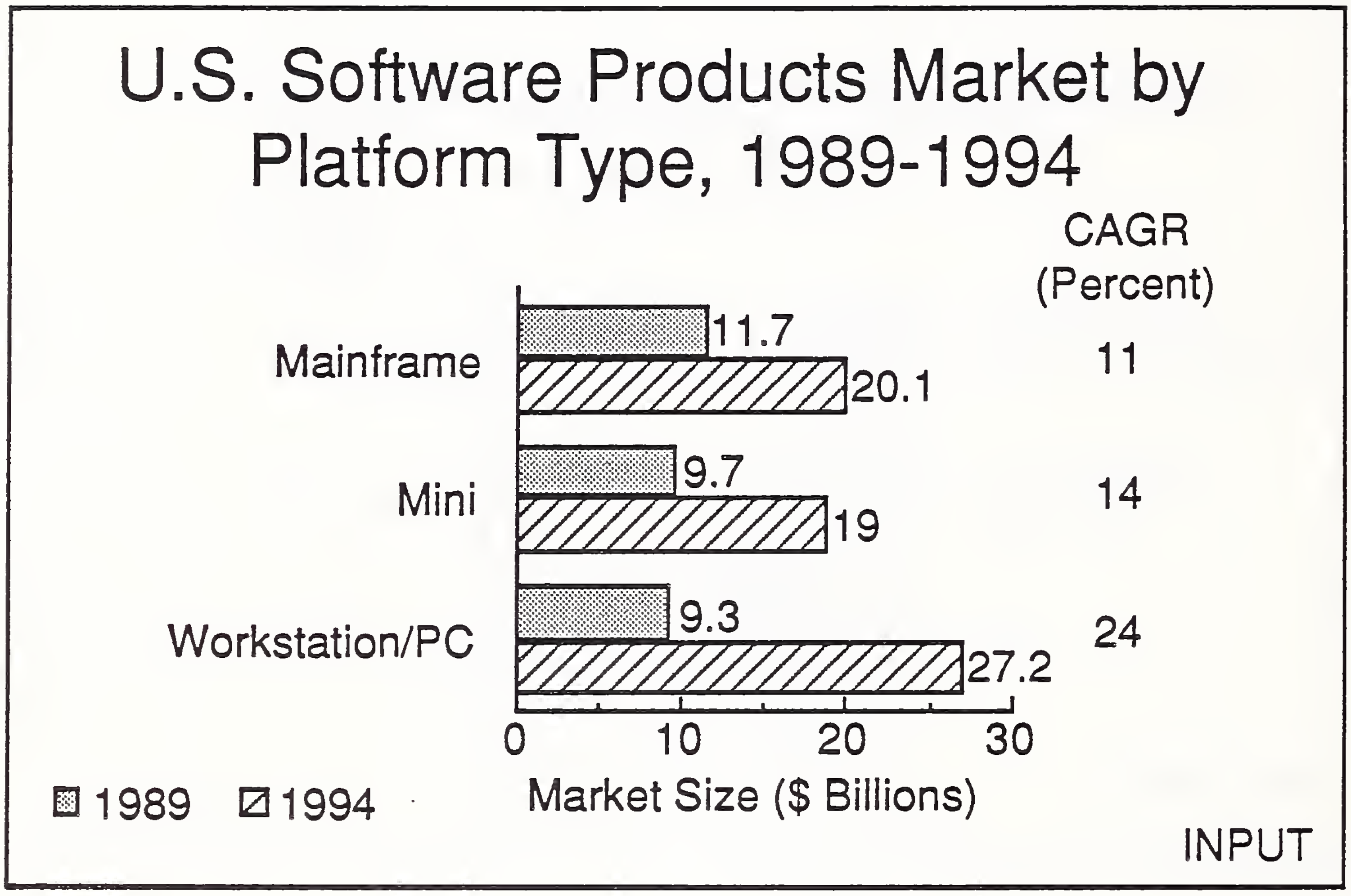
MPRE90-64b



Notes

MPRE90-65

Software Products Market Trends

- Enterprise-wide data access
- Distributed processing
  - Client/server/cooperative processing
  - Peer-to-peer processing
- Object-oriented technologies
- Focus on interoperability

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Notes

MPRE90-63

User Needs

- Application sophistication
- Heterogeneous hardware/environment
- Dynamic connectivity/cooperative processing
- Resource sharing/groupware
- Improved user productivity
- Workstation support
- Image processing
- Improved development process

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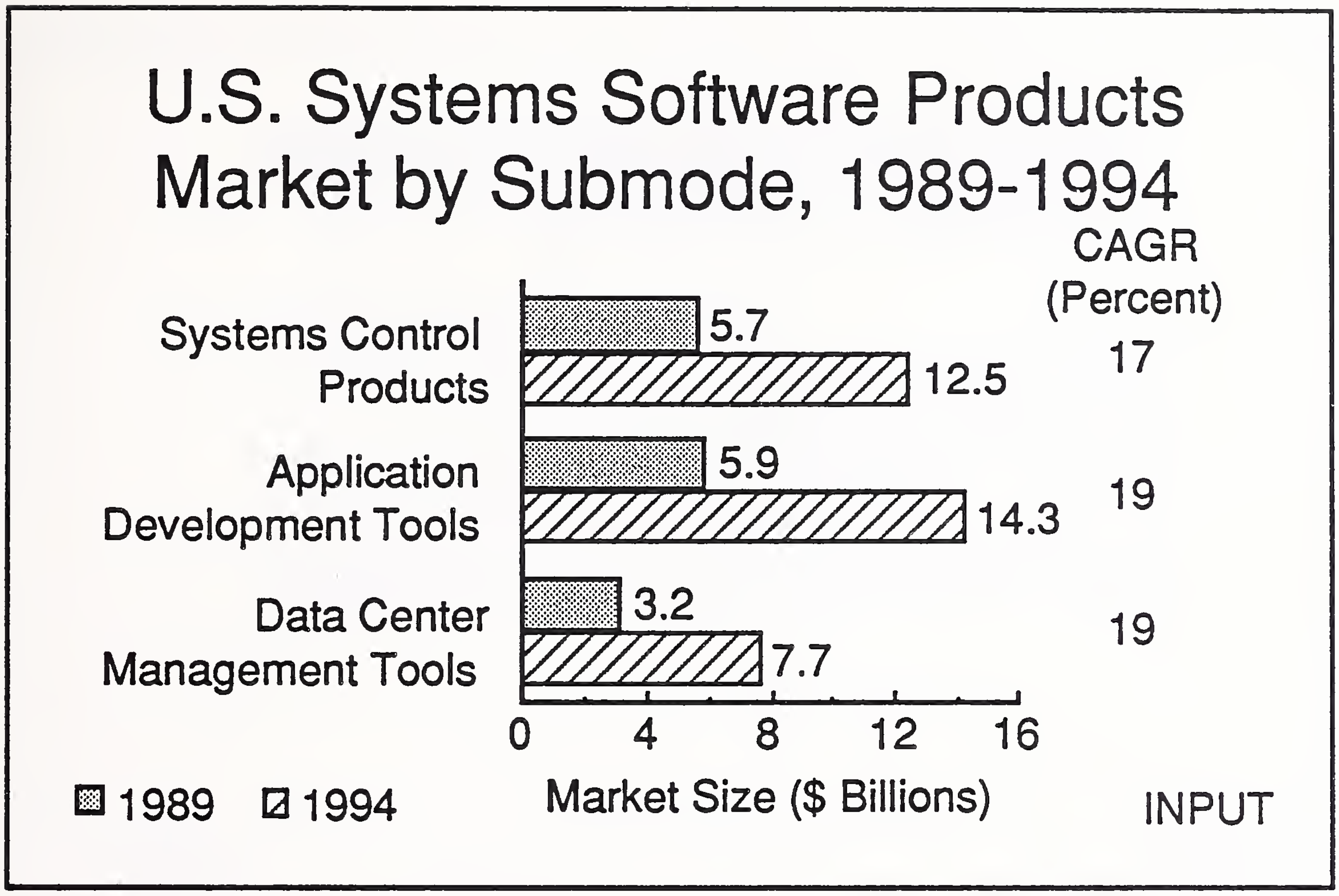
Notes



Notes

MPRE90-66

Systems Software Products Market—Inhibiting Forces

- Computer saturation
- Competition and price pressures
- Declining software price per copy
- Hardware/firmware/software vendor strategies

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Notes

MPRE90-67

CASE—User Perspective

- Real productivity problem
- Backlog problem continues
- Lingering resistance to disciplined development processes

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Notes

MPRE90-68a

CASE—User Perspective

- Two problems
  - Existing applications—2/3rds
  - New development—1/3rd
- Slow to become systems engineers
- Caution about CASE

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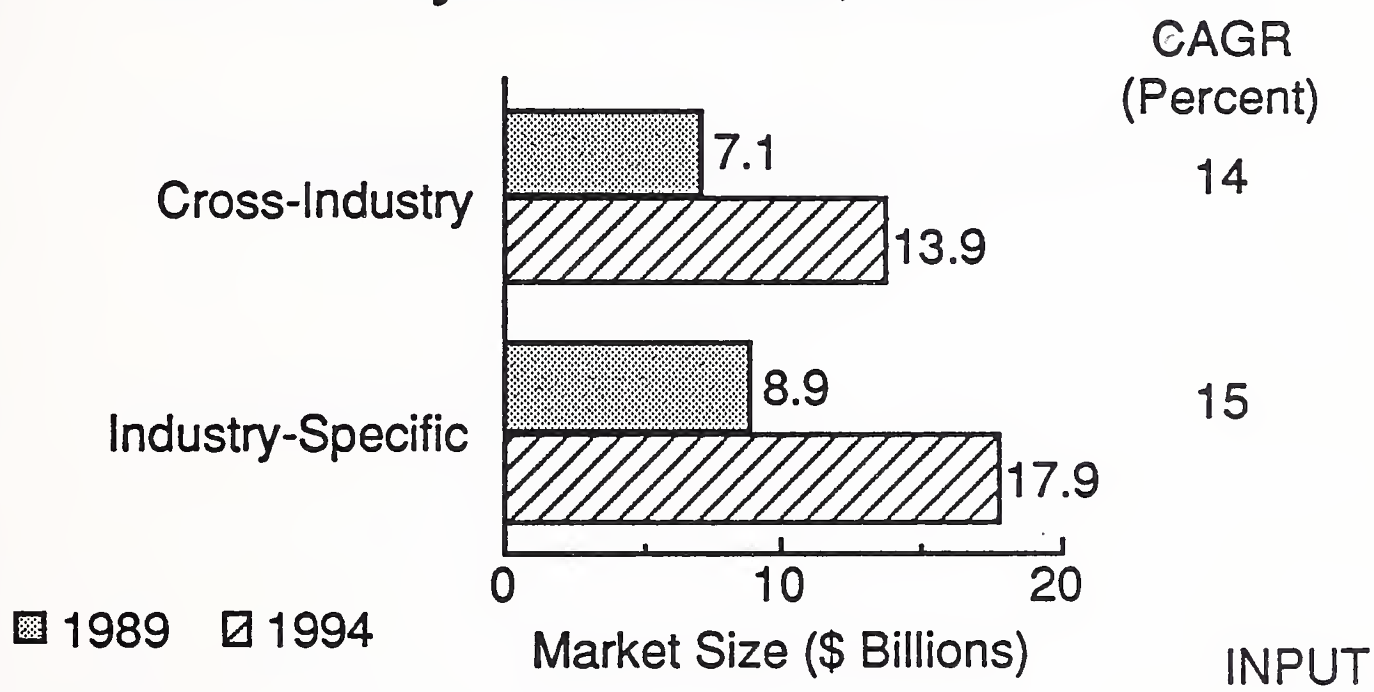
Notes

MPRE90-68b

U.S. Applications Software Product Market by Submode, 1989-1994



Notes

MPRE90-70

Turnkey Systems/VARs

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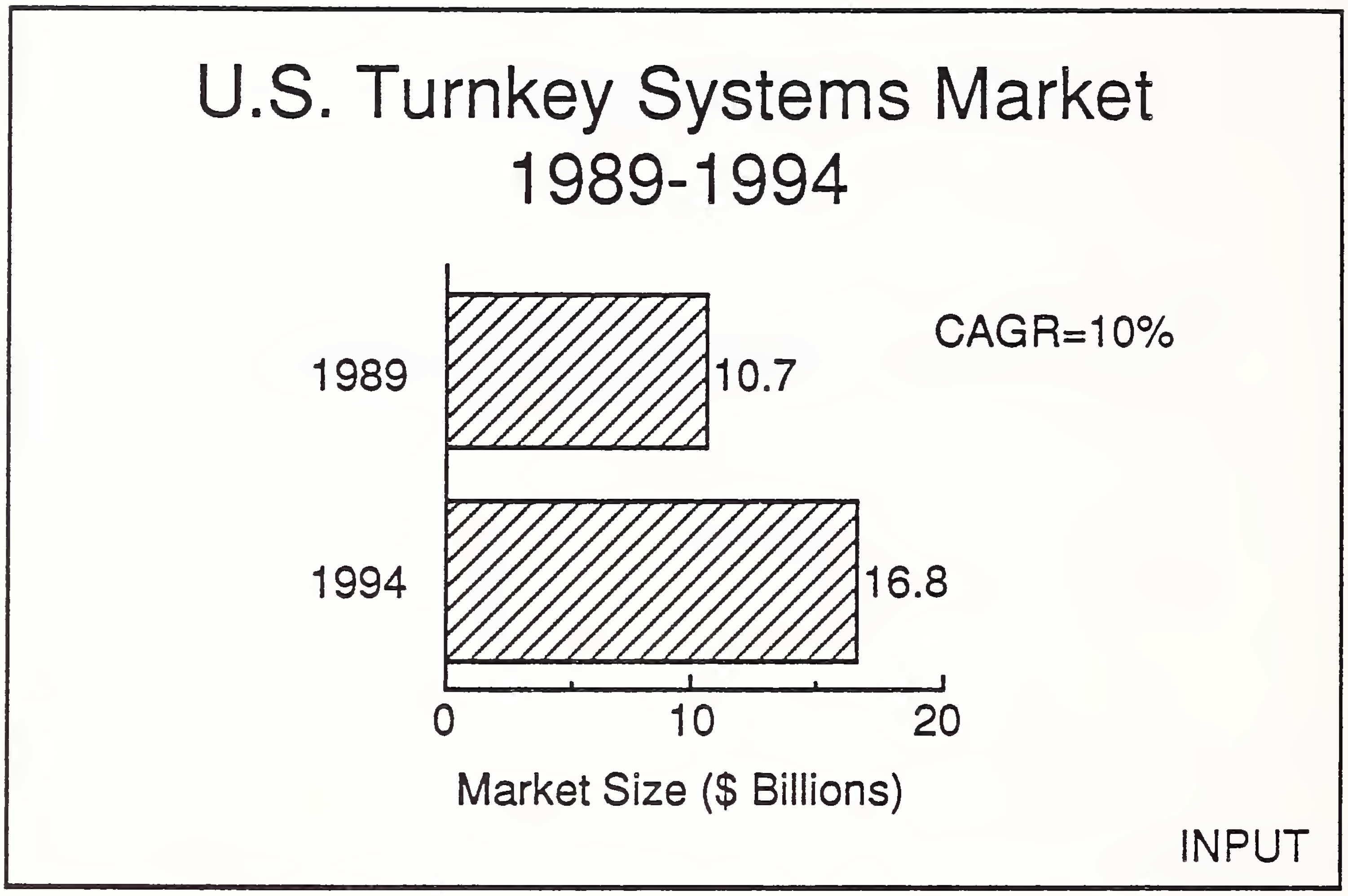
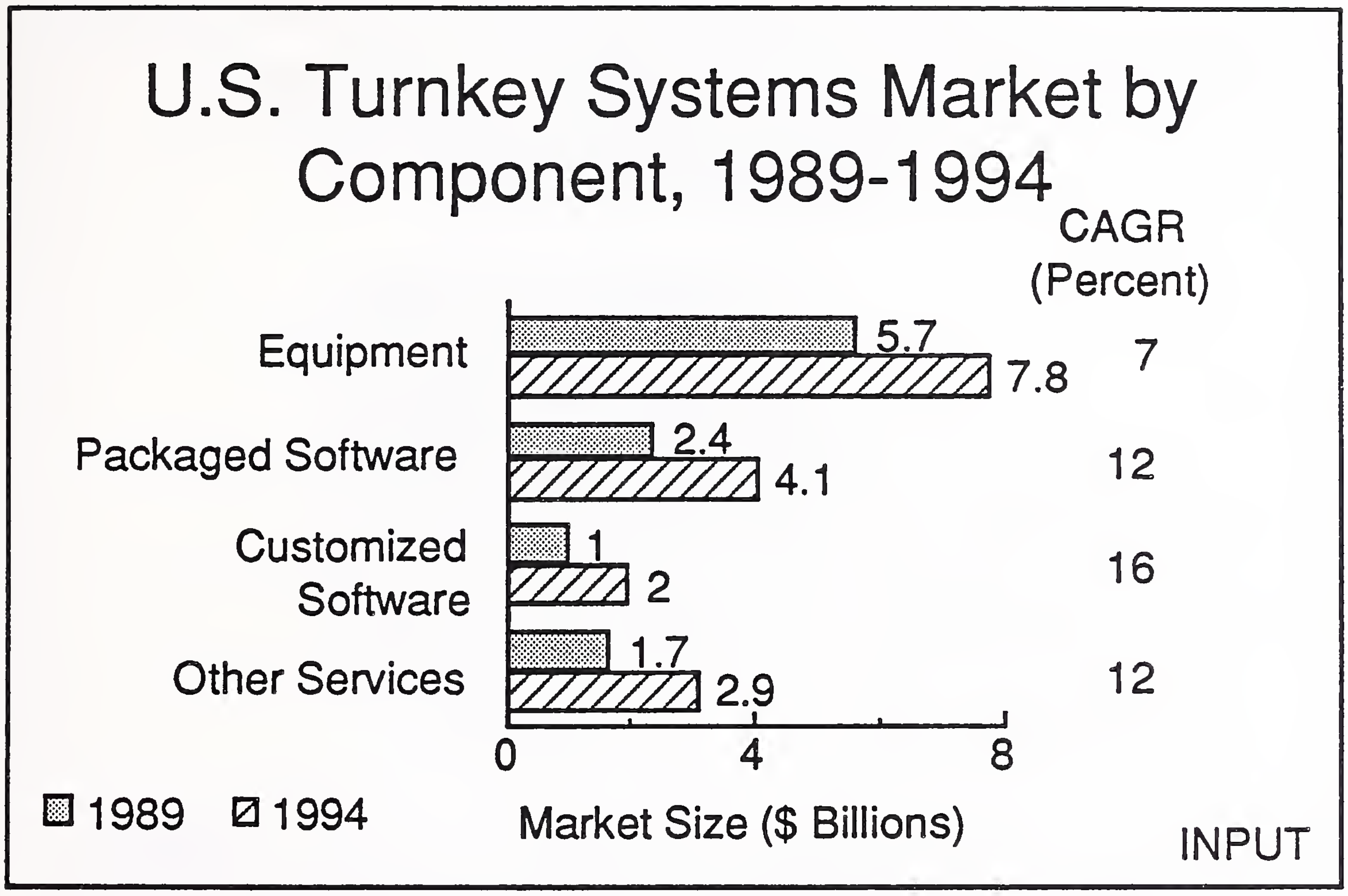
Notes



Notes

MPRE90-76



Notes

MPRE90-77

Platform Types: Turnkey Systems Equipment

	Systems Shipped (Percent)	
	1988	1994
Mainframe	10	5
Minicomputer	55	40
Workstation/PC	35	55

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Notes

MPRE90-78

Turnkey Systems Market Driving Forces

- Distributed solutions
- Customization
- Growth of support services
- Software applications required
- Account control at low end of spectrum

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Notes

MPRE90-79

Turnkey Systems Market
Inhibiting Forces

- Shift to software vendor role
- Hardware vendors writing software
- Cash flow/prime contractor expenses and resources

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Notes

MPRE90-80

Processing Services

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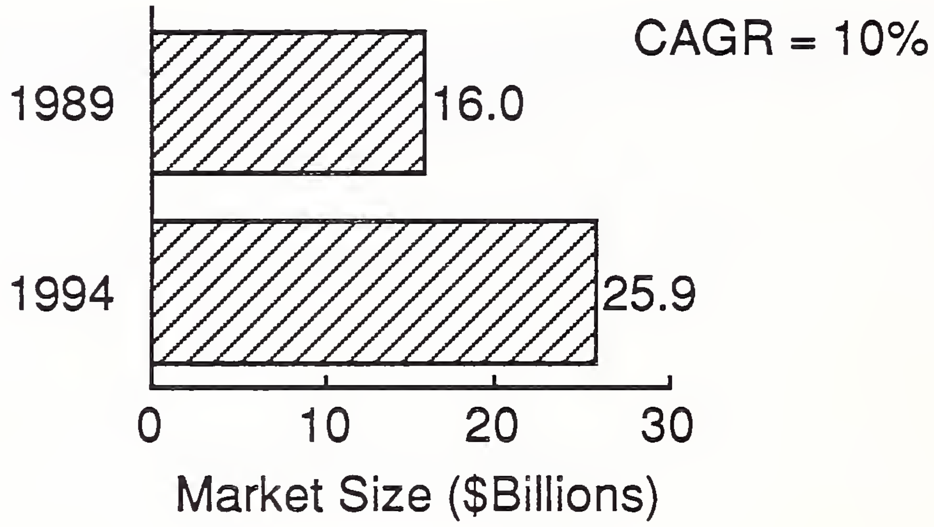
MPRE90-84

Notes

U.S. Processing Services Market 1989-1994



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Notes

Processing Services

- Transaction processing
- Utility processing
- "Other" processing

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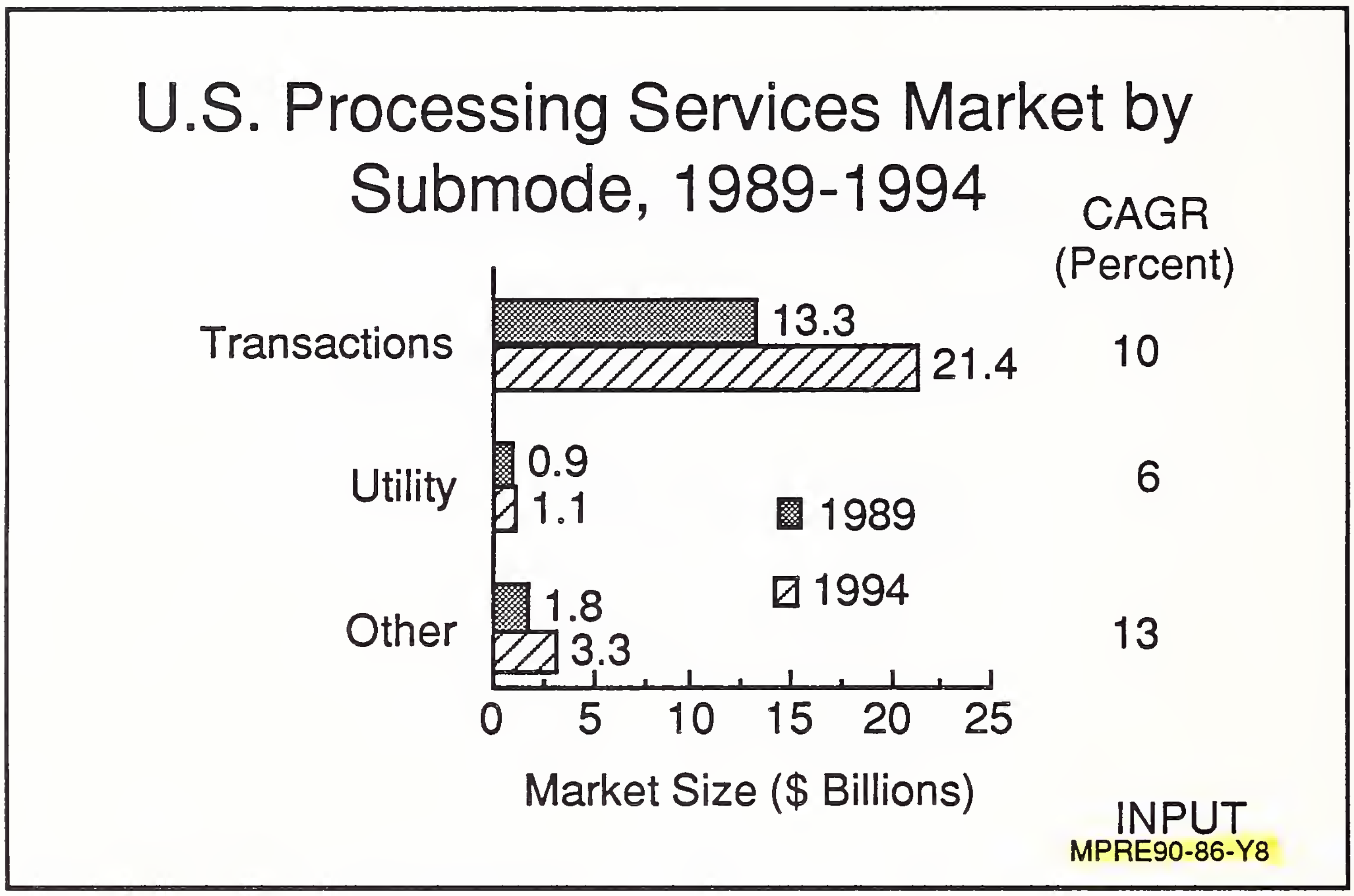
MPRE90-85-Y7

Notes


U.S. Processing Services Market by Submode, 1989-1994
CAGR (Percent)
Transactions
13.3
21.4
10
Utility
0.9
1.1
6
1989
1994
Other
1.8
3.3
13
0
5
10
15
20
25
Market Size ($ Billions)
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MPRE90-86-Y8

Notes

Processing Services Inhibitors

- Micro/mini/WS solutions
- Price/performance disadvantage
- Market entry costs
- Market maturity

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Notes

Processing Services Driving Forces

- Current user inertia
- Time critical solutions
- Outsourcing trends
- Innovation/specialization
- Disaster recovery

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Notes

MPRE90-87

Systems Operations

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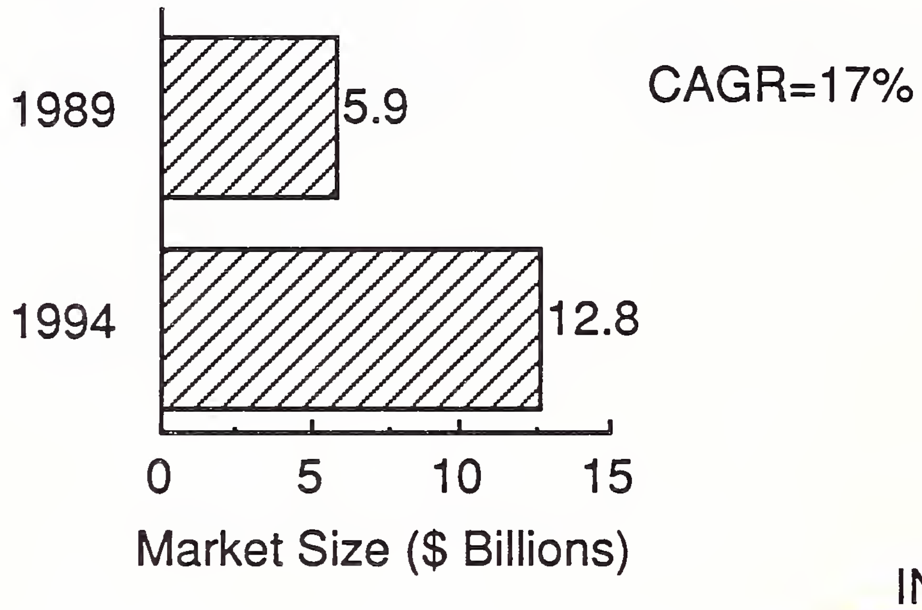
Notes

MPRE90-89

U.S. Systems Operations Market, 1989-1994



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Notes

"Old"

Facilities Management

- Focus on computer operations

"New"

Systems Operations

- Development, planning, control, operations

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Notes

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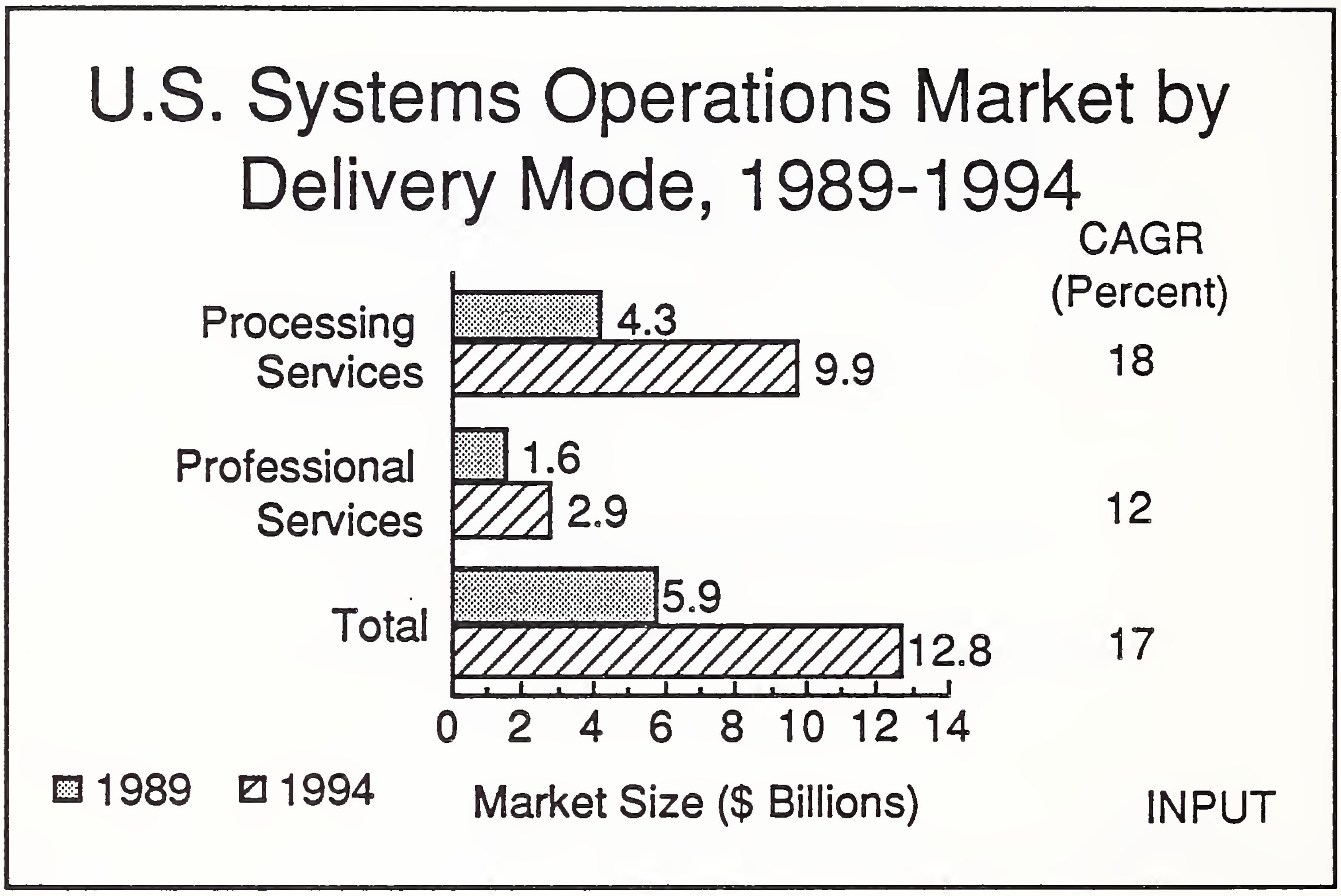

Notes

MPRE90-95

Systems Operations Characteristics

- Method of Operation
  - Remote
  - On-site
  - Distributed

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Notes

MPRE90-91a

Systems Operations Characteristics

- Ownership of central systems
  - Vendor-owned
  - Customer-owned

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Notes

MPRE90-91b

Systems Operations Characteristics

- Uniqueness of resource use
  - Single customer, dedicated resources
  - Multiple customers, shared resources

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Notes

MPRE90-91c

Systems Operations Processing Services

- Fastest-growing segment of processing market
- Changing attitudes of IS executives
- Non-IS executive involvement
- Emerging systems vendors' strategies

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Notes

MPRE90-96

Trends in Systems Operations

- Network management contracts
- Development and operations in agreements
- Shared resources approach
- Mixed hardware offerings
- Vertical market focus

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Notes

SCON-DRW2-26

Systems Operations Driving Forces

- Increasing complexity of operations
- Scarcity and expense of required talents
- Costs and problems of systems upgrades
- Service level requirements
- Backup requirements

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Notes

MPRE90-93a

Systems Operations Driving Forces

- Systems integration creates opportunities
- Reduction of costs through sharing
  - People
  - Software
  - Computer systems
  - Networks

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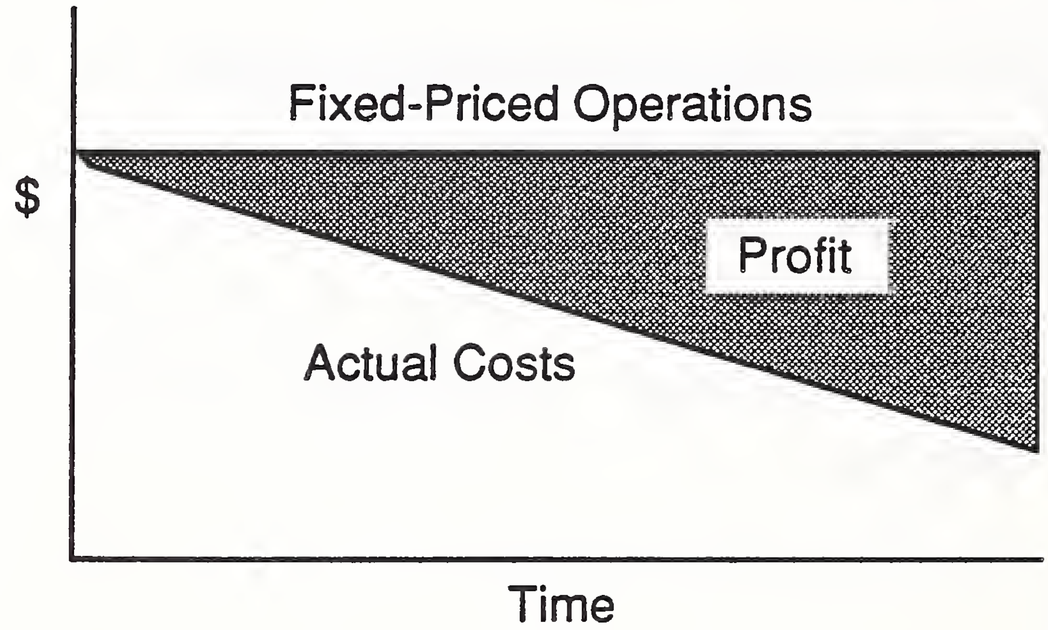
Notes

Systems Operations

Efficiency Yields Profits



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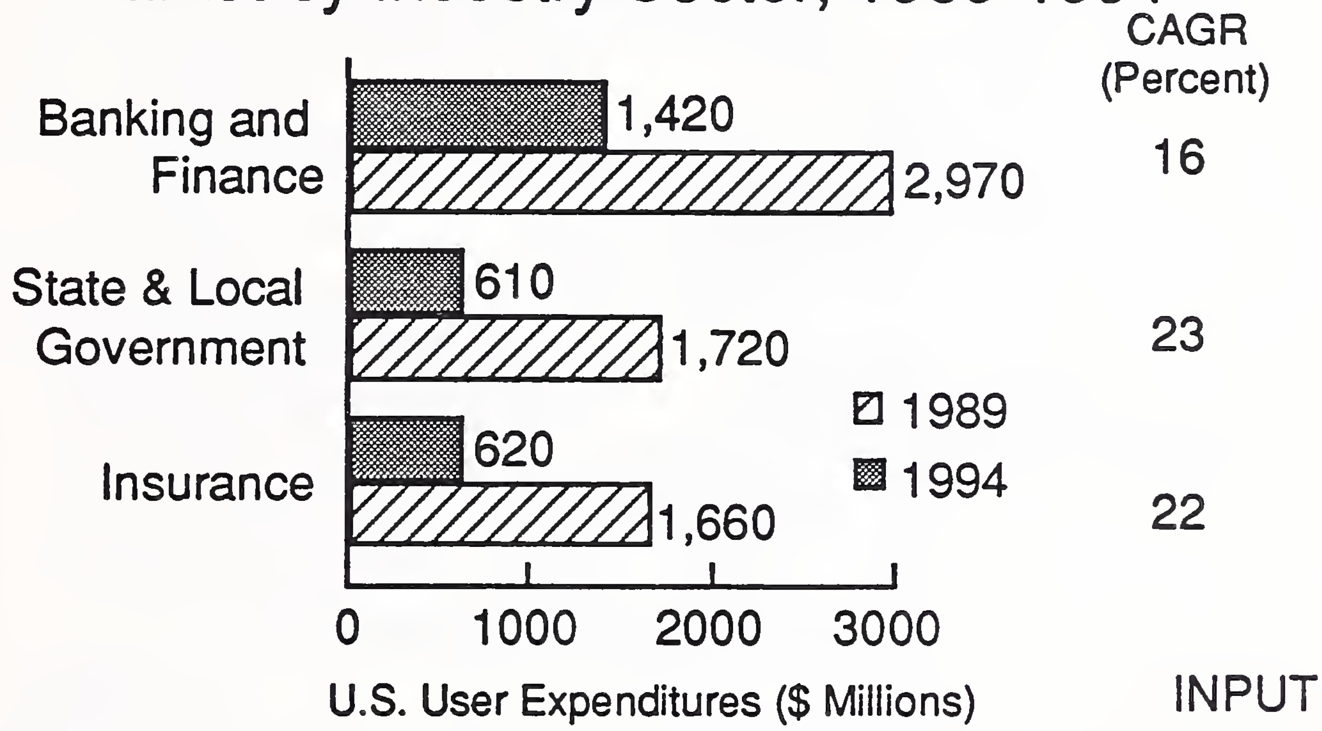
Notes

SCON-DRW2-24

MPRE90-98

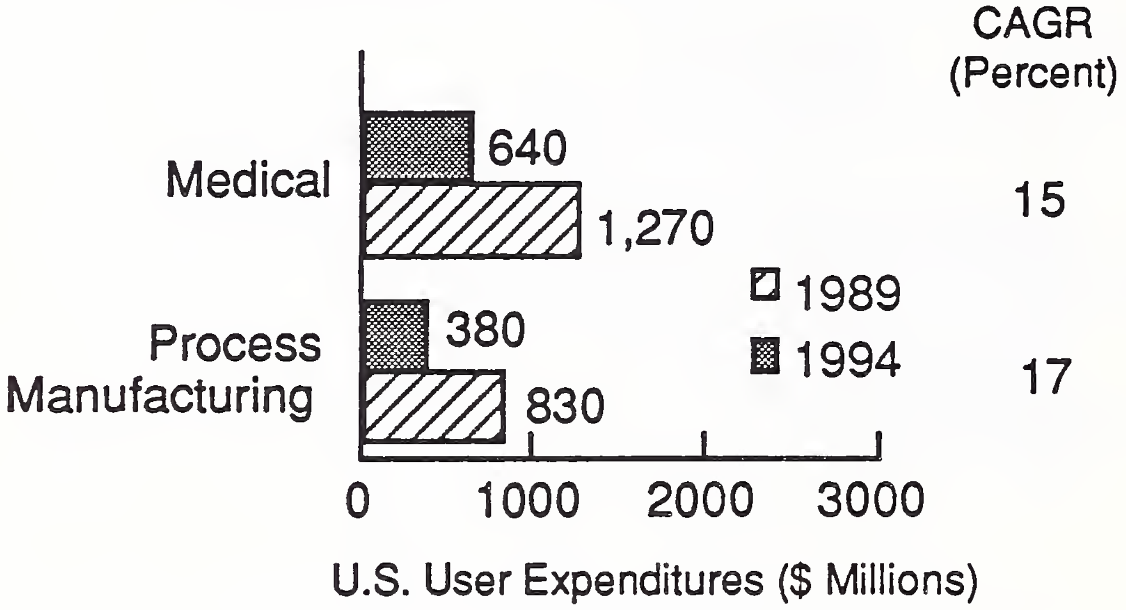
Processing Services Systems Operations Market by Industry Sector, 1989-1994



Notes

MPRE90-104a

Processing Services Systems Operations Market by Industry Sector, 1989-1994



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Notes

MPRE90-104b

Leading Systems Operations Vendors

Vendor	Market Share (Percent)
EDS	16 *
Computer Sciences	5
Shared Medical Systems	3
Boeing Computer Services	3
Systematics	3

*Non-GM

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Notes

SCON-DRW2-12

MPRE90-106

Systems Integration

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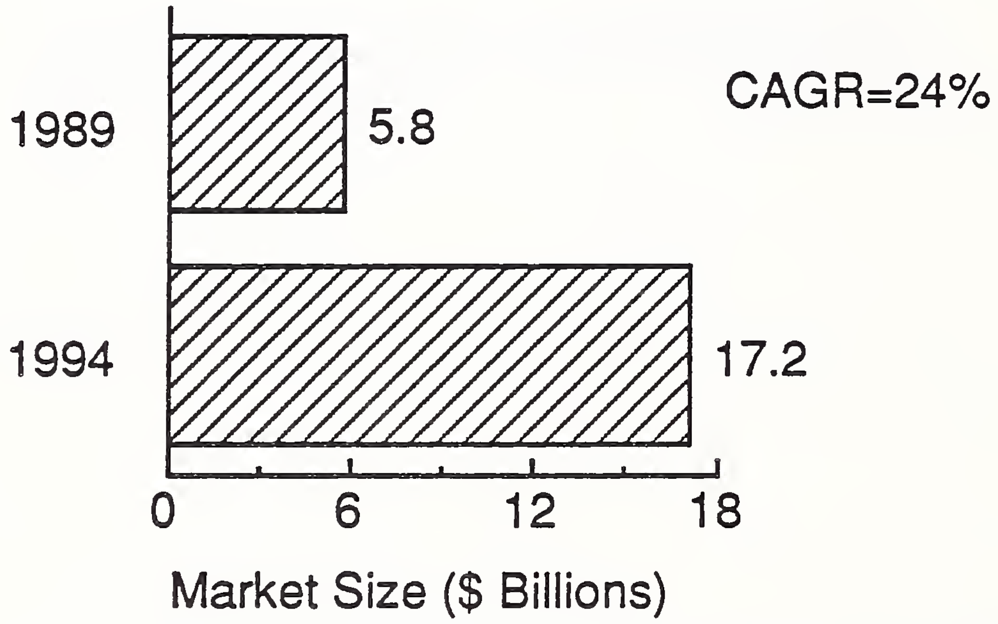
Notes

U.S. Systems Integration Market 1989-1994



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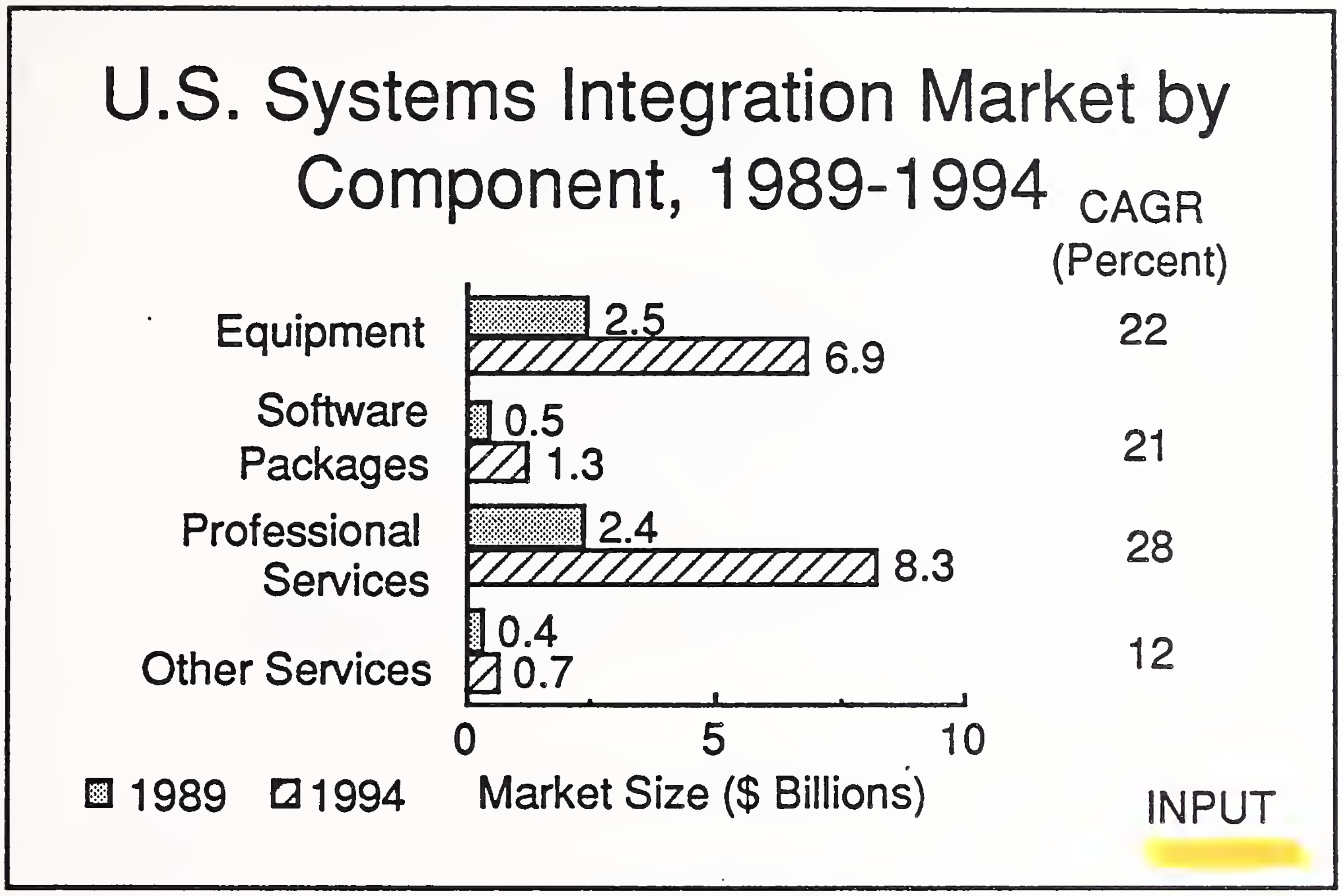
MPRE90-145



Notes

MPRE90-146

SI Definition

- A business offering
- Complete solution to complex requirement for:
  - Information systems
  - Networking
  - Automation
- Custom selection and implementation of products and services

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Notes

Major Buyer Issues

- Core business focus
- Competitive demands
- Increasingly complex solutions

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Notes

Major Buyer Issues

- Users becoming buyers
- New technology application
- Unavailable skills

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Notes

Major Vendor Issues

- Consolidations and alliances
- Focus on repeatable solutions
  - Risk reduction
  - Productivity

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Notes

Major Vendor Issues

- Full service suppliers
  - "Business change" consulting
  - Systems operation
- Increasing competition
  - Skills
  - Clients

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Notes

Professional Services

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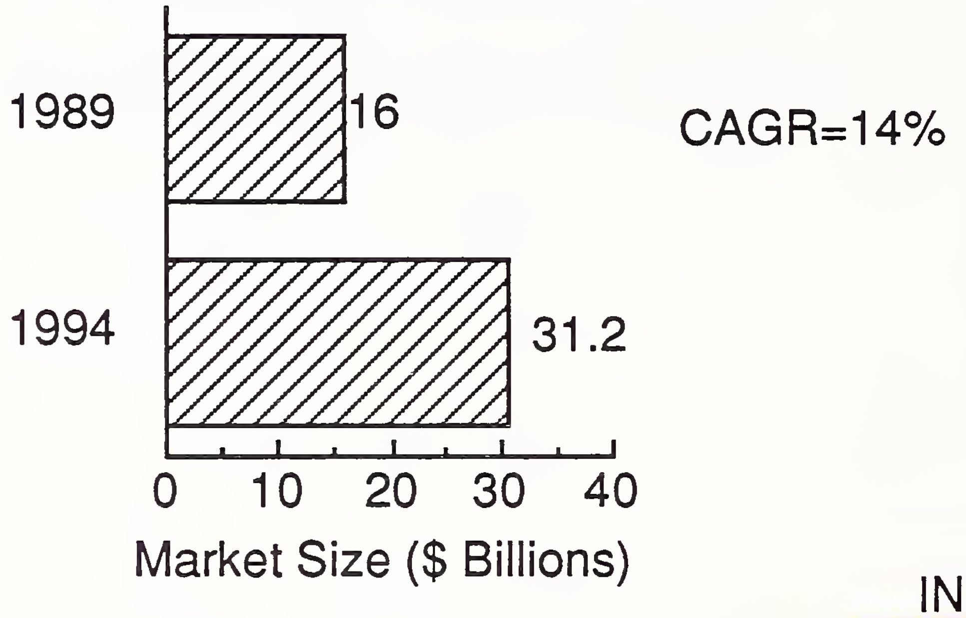
Notes

U.S. Professional Services Market, 1989-1994



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MPRE90-76-Y10

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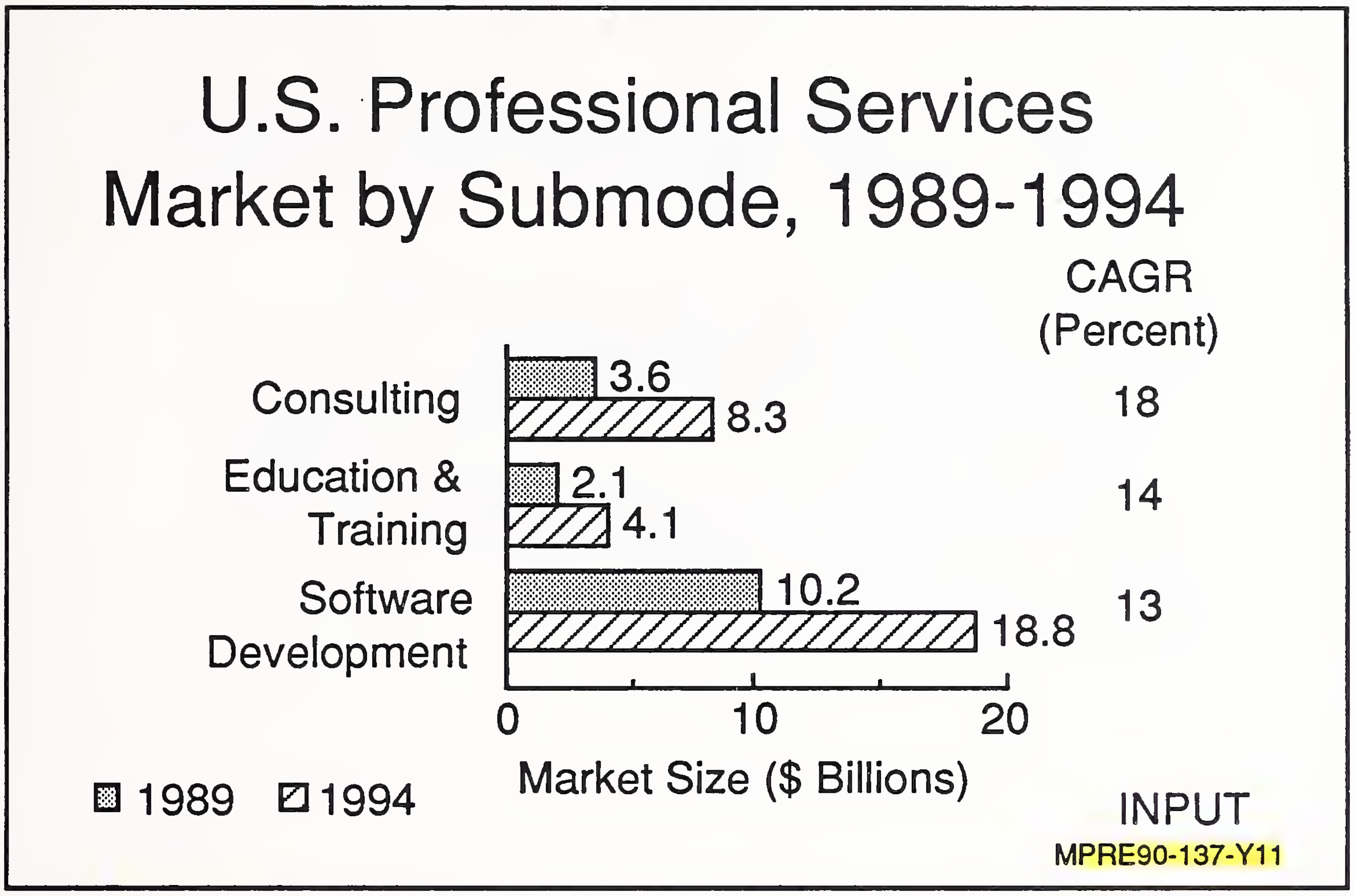
U.S. Professional Services
Market by Submode, 1989-1994
CAGR
(Percent)
Consulting
3.6
8.3
18
Education &
Training
2.1
4.1
14
Software
Development
10.2
18.8
13
0
10
20
Market Size ($ Billions)
1989
1994
INPUT
MPRE90-137-Y11

Notes

Professional Services Major Trends

- Alliances between services/software firms
- Partnering with equipment suppliers
- Software product vendors expanding services
- Services provide vendor differentiation
- "Methodology" as marketing tool
- Multi-tiered market developing

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Notes

MPRE90-134

Professional Services Major Trends

- IS applications backlog not being reduced
- Continuing shortage of in-house skills creates demand
- Uncertainty creates demand

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Notes

Professional Services Market Inhibitors

- Lack of 'professional' status
- Lack of qualified personnel
- Investment required for internal education/training
- Unsuccessful projects
- Improved applications software products

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Notes

IBM Partners in Professional Services

Company	Activity
CTG	AD/Cycle
CAP Gemini America	AD/Cycle
G.E. Consulting	AD/Cycle
Computer Power Group	AD/Cycle
AMS	Marketing

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Notes

Network Services

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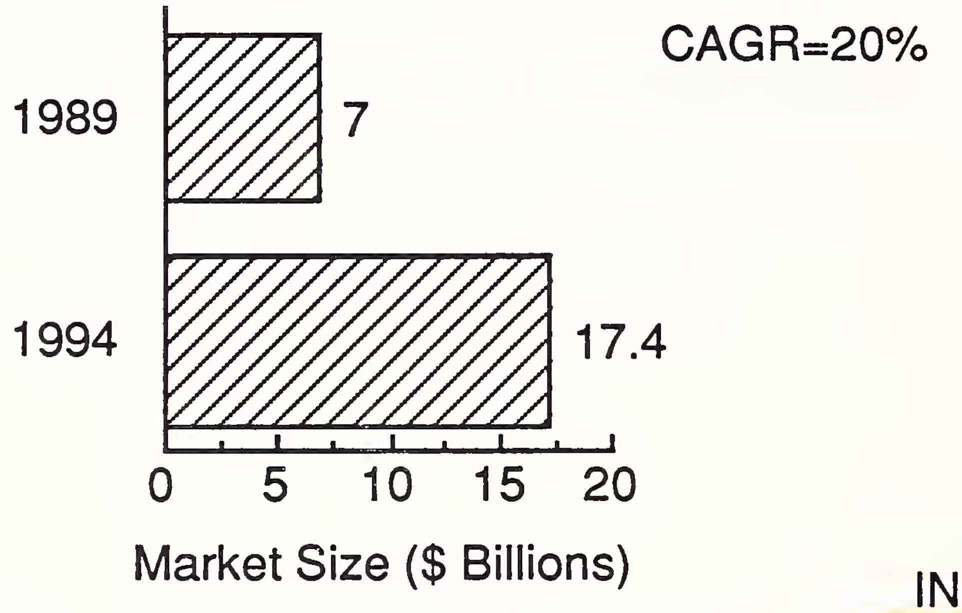
Notes

MPRE90-127

U.S. Network Services Market, 1989-1994



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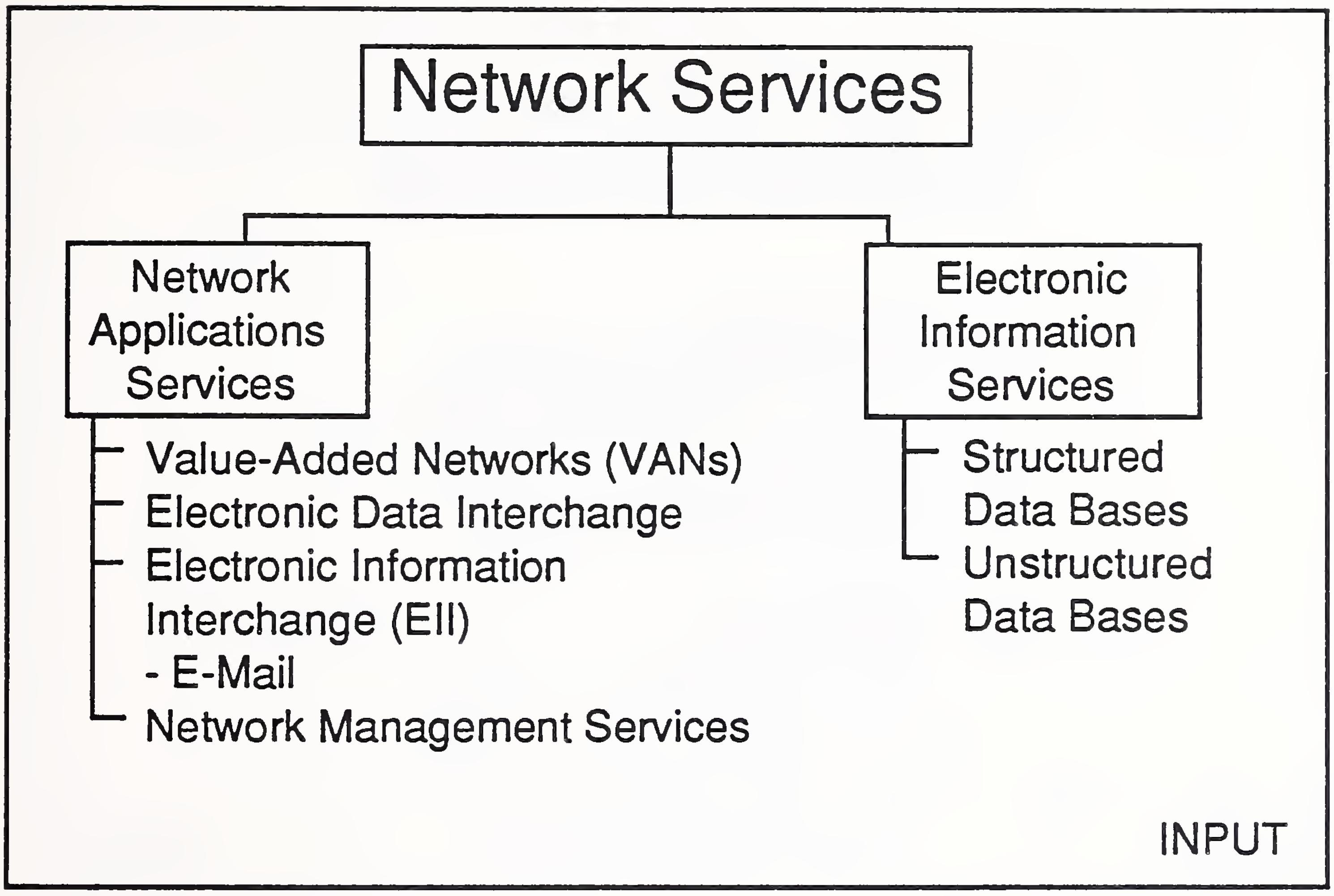
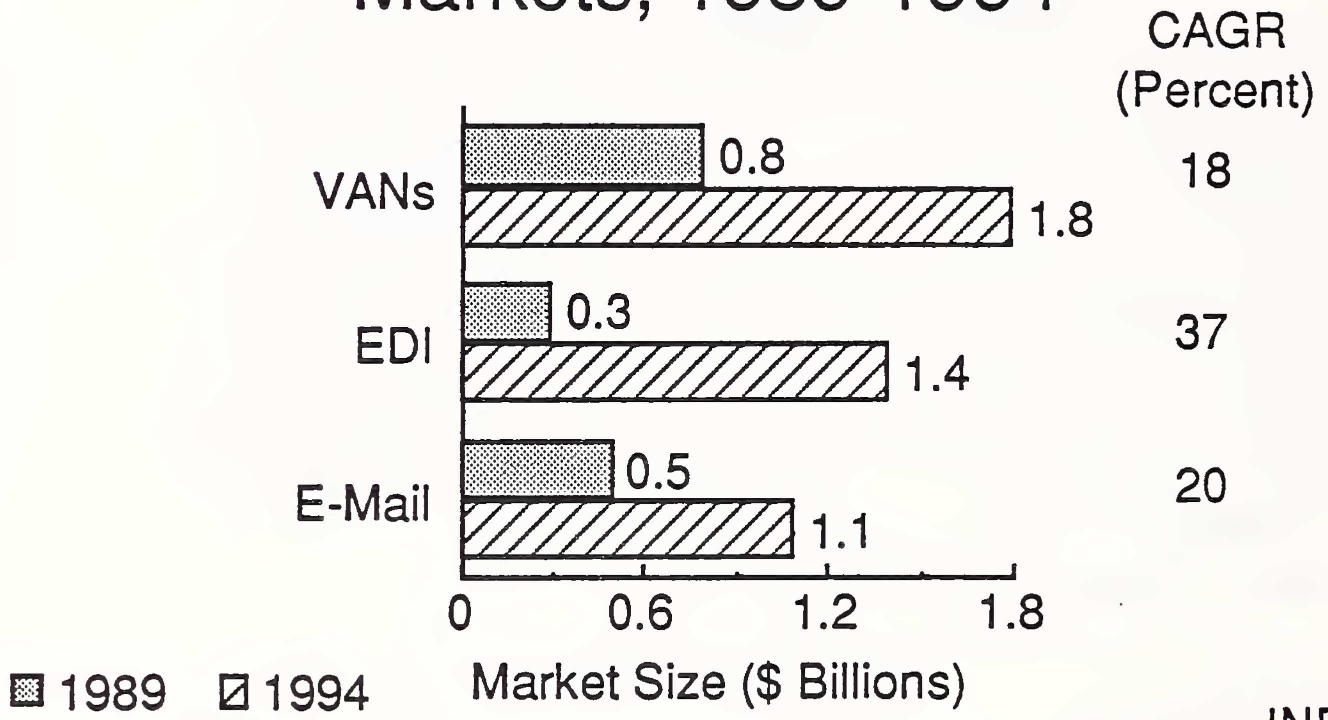
MPRE90-76-Y12

Notes


Network Services
Network Applications Services
Value-Added Networks (VANs)
Electronic Data Interchange
Electronic Information Interchange (EII)
- E-Mail
Network Management Services
Electronic Information Services
Structured Data Bases
Unstructured Data Bases
INPUT

Notes

U.S. Network Applications Services Markets, 1989-1994



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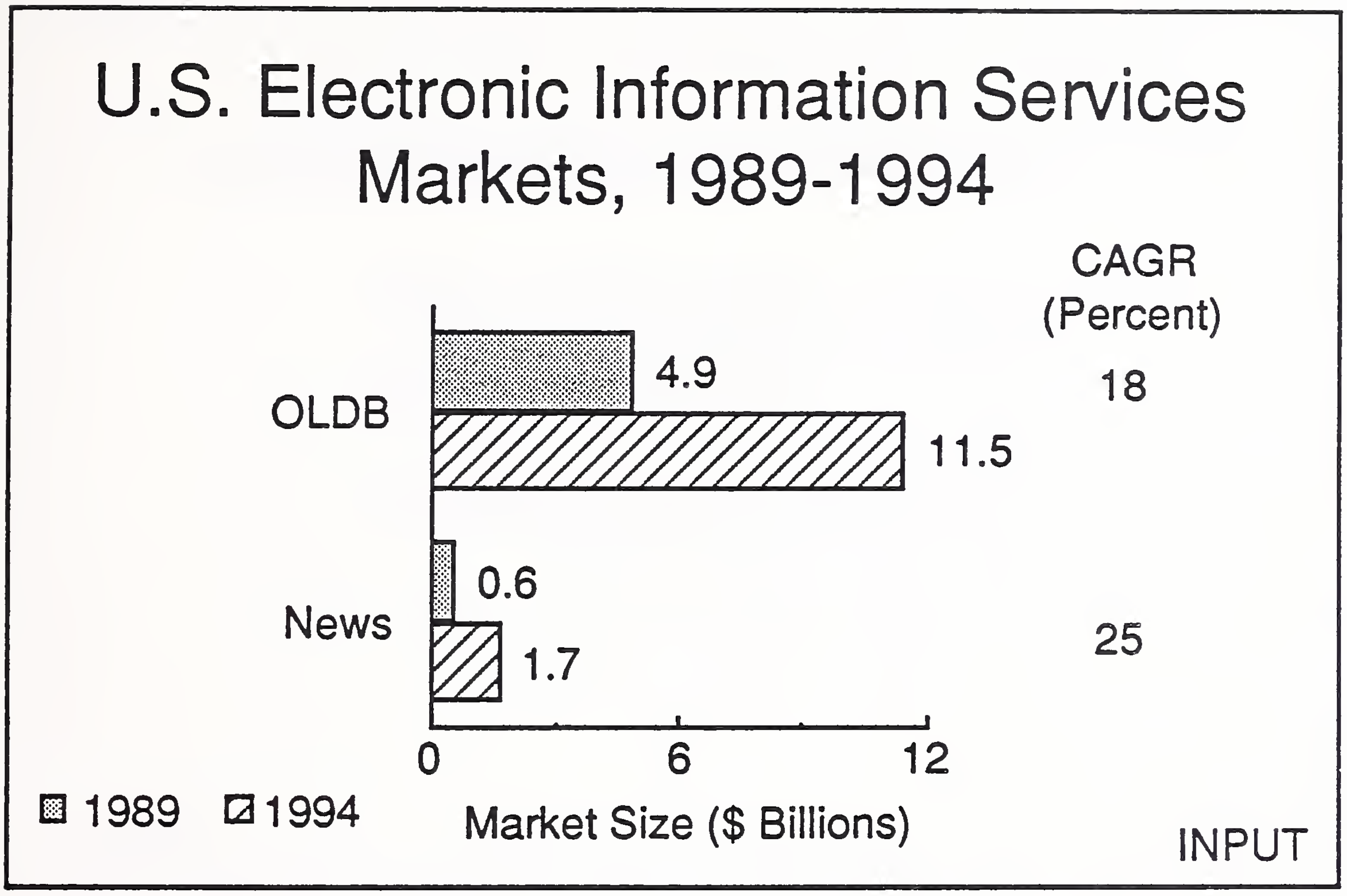
Notes

MPRE90-129



Notes

MPRE90-130

Network/Electronic Information Services Market—Driving Forces

- Business need for rapidly available electronic information
- RBOC entry
- Network management services
- Voice information services
- Transaction "electronification"

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Notes

Network Services Markets

- RBOCs will be a factor
- EDI has leverage into interorganizational services
- Market growth remains strong

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Notes

Vertical Markets

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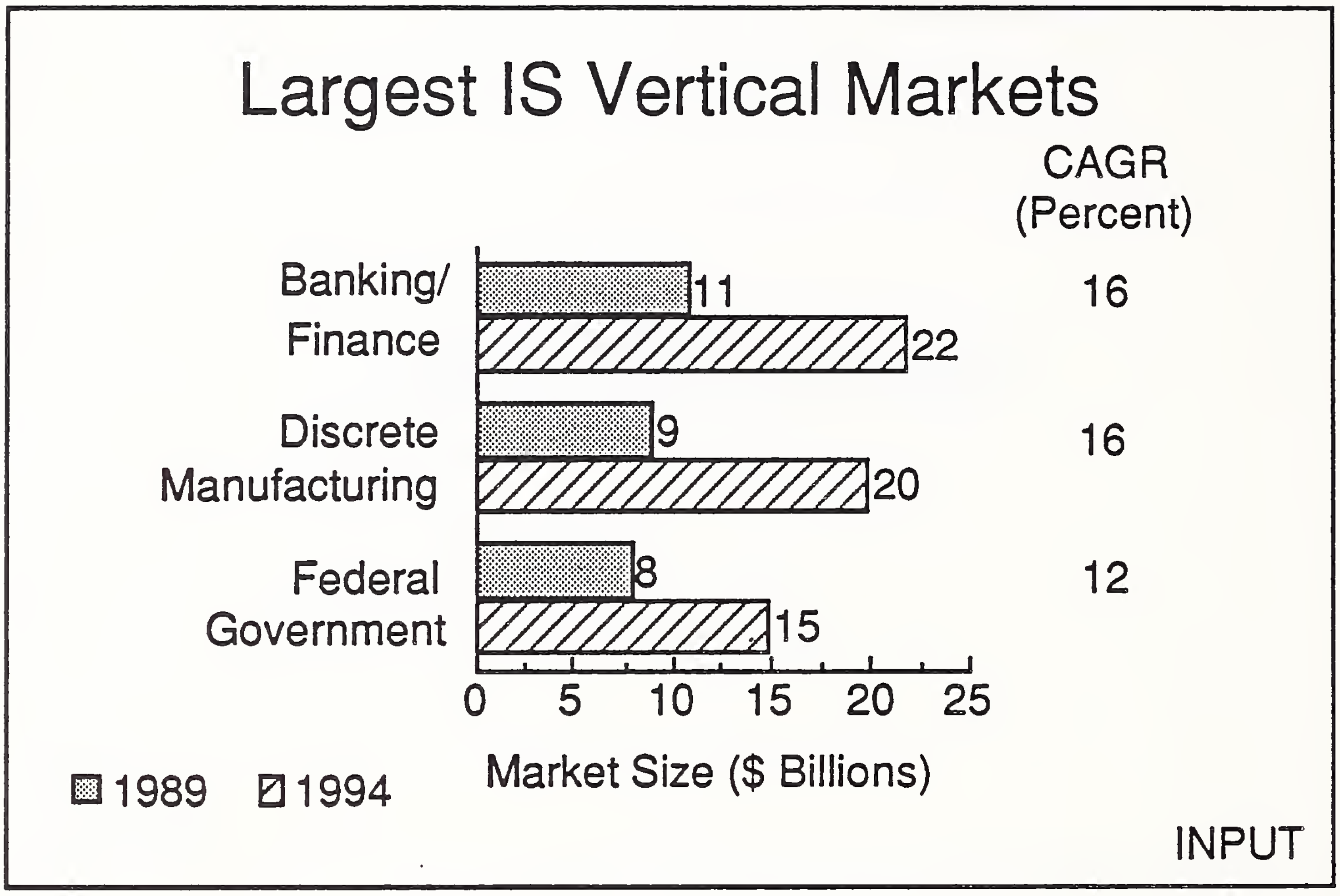
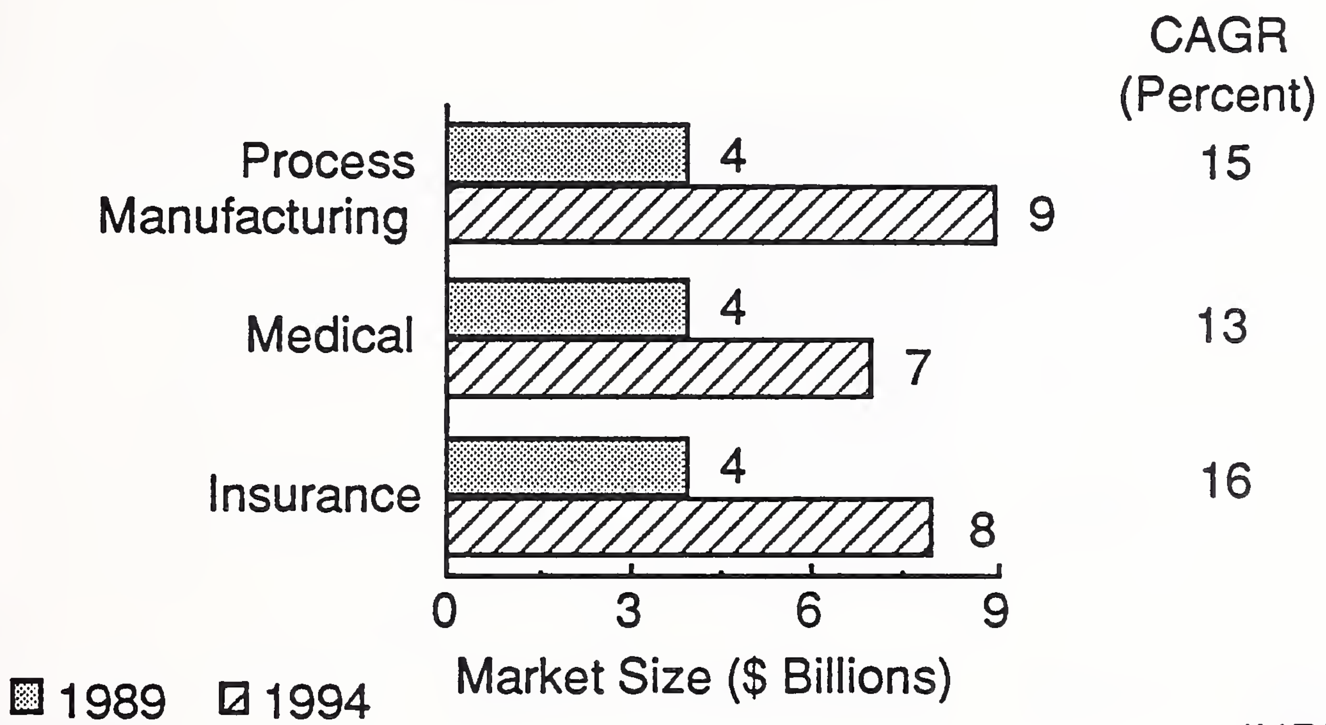
Notes



Notes

MPRE90-241

Largest IS Vertical Markets



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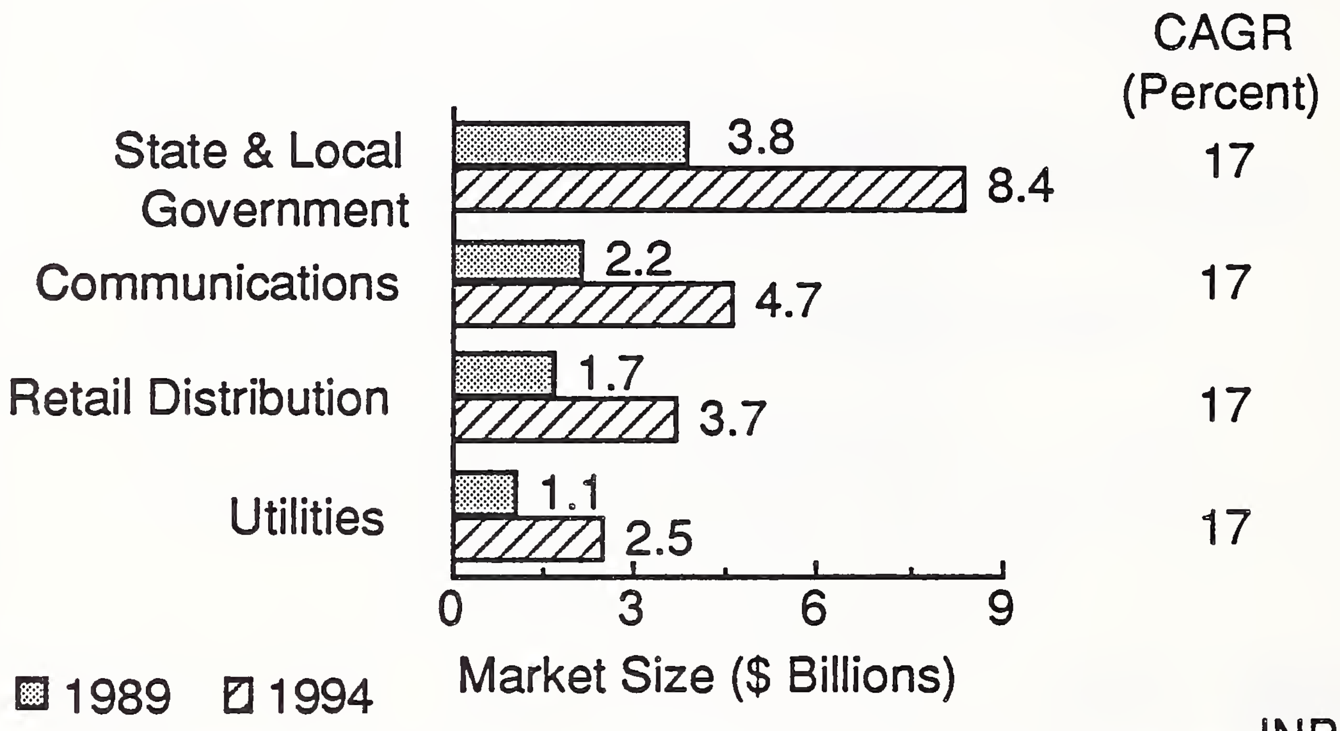
Notes

MPRE90-242

Fast-Growing IS Vertical Markets



Notes

MPRE90-243

Major Trends for the Decade

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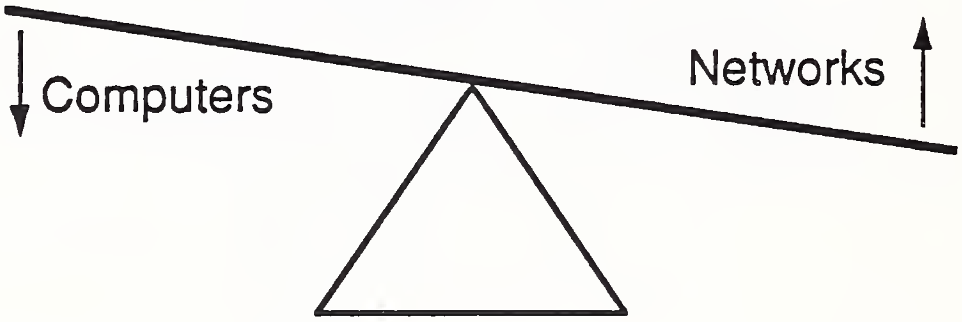
Notes

1990s Trend



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Notes

MPRE90-232

1990 Trend

- Network = Power
  Consummable
  Embedded storage, processing, software
- Computer = Device
  Discrete replacement
  Embedded communications link

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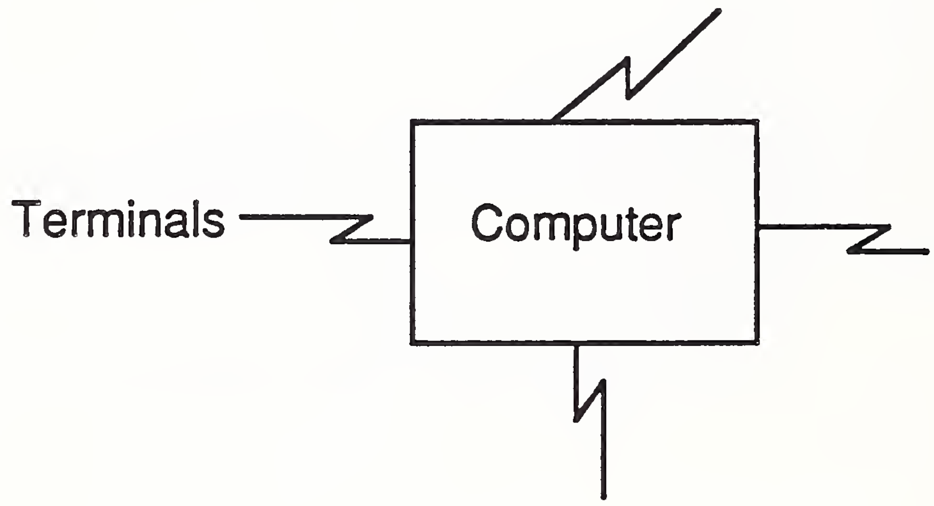
Notes

MPRE90-233

Network 1970



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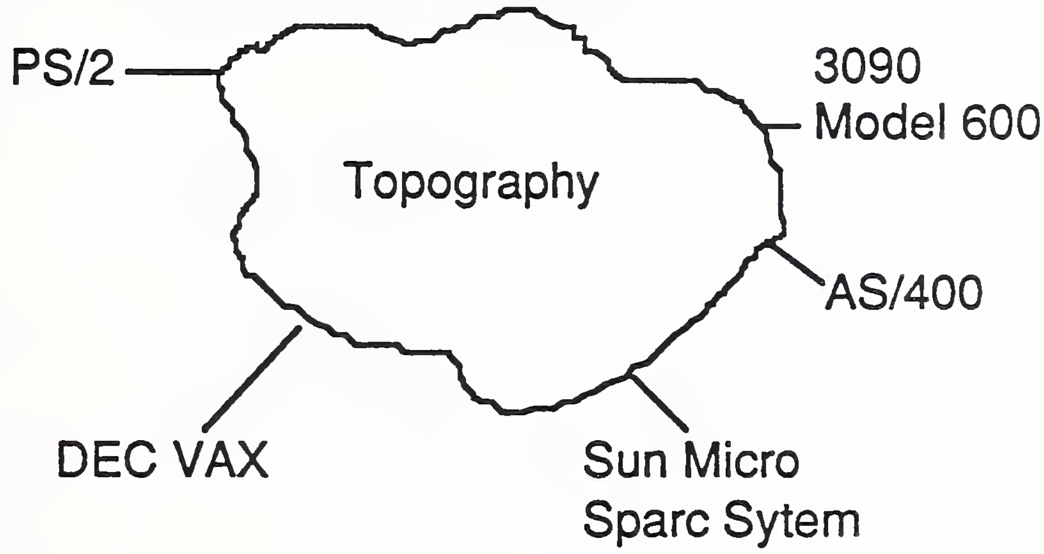
Notes

MPRE90-234

Network 1990



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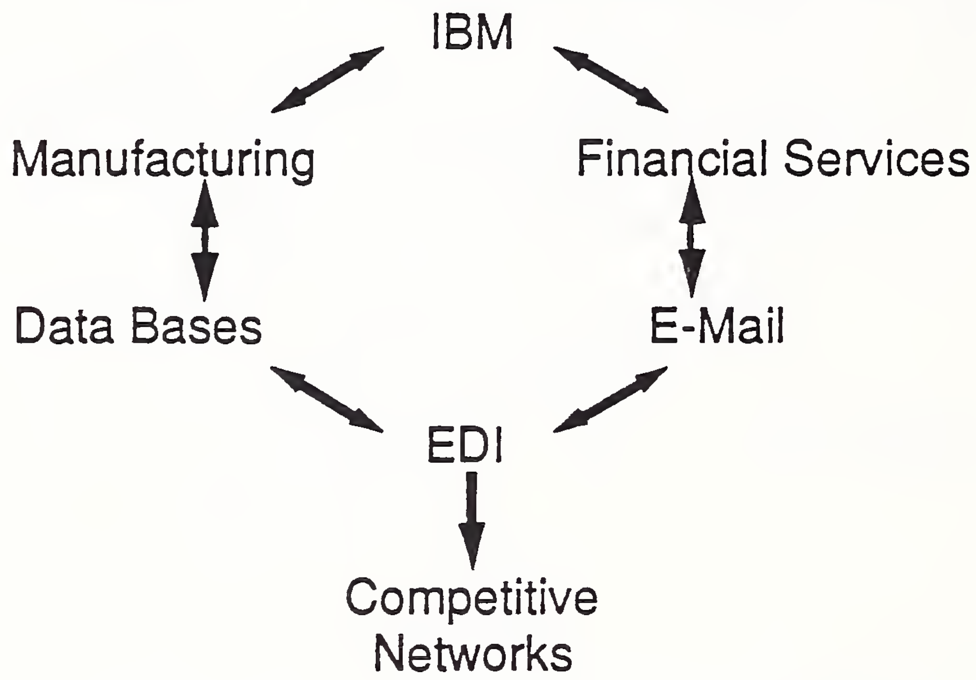
MPRE90-235

Trends for the 1990s
Interconnections Will Grow



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Notes

MPRE90-236

Trends Towards Integration
Technology Changes

- Robust public networks
- Virtual network capability
- Enhanced value-added networks
- Increased PBX functionality
- Enhanced local-area networks

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Notes

MPRE90-228a

Trends Towards Integration Technology Changes

- Intelligent multiplexers
- Relational data base systems
- Distributed processing
- PC/workstation growth

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Notes

MPRE90-228b

Conclusions

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Notes

MPRE90-176

Conclusions

- Overall market remains vital
- Outsourcing to grow
- Opportunities will require targeted marketing and support
- Breadth of services/products enhances market position

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Notes

MPRE90-177

Conclusions

- Alliances/mergers necessary
- Customer requirements becoming more sophisticated
- Customers applying professional buying
- 'Federated' IS requires complex selling
- Selling process is key
  - Solutions-oriented
  - Professional

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Notes

Conclusions

- Shorter lifecycle calls for fast response
- People skills/retention are key
- Internationalism to increase
- Technology creates opportunities

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Notes

MPRE90-179

Opportunity for 1990s

- Attack in-house budgets
- Opportunity $75-100 billion/year in U.S.

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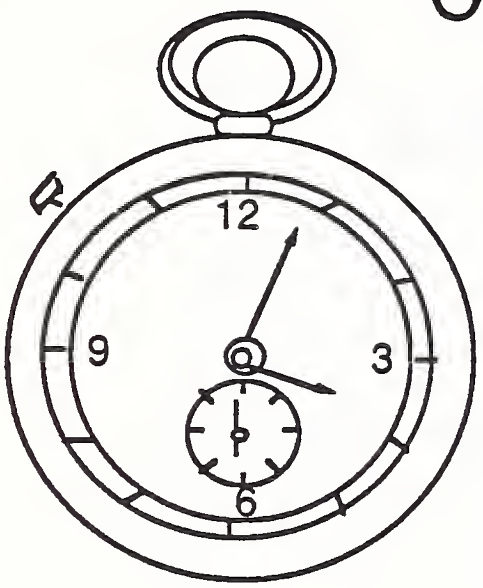
Notes

Conclusions



"Time—
The next source of
competitive advantage"

- HBR July/August 1988

- Attack opportunities
- Adjust to the requirements

INPUT

Notes

MPRE90-182

About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

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